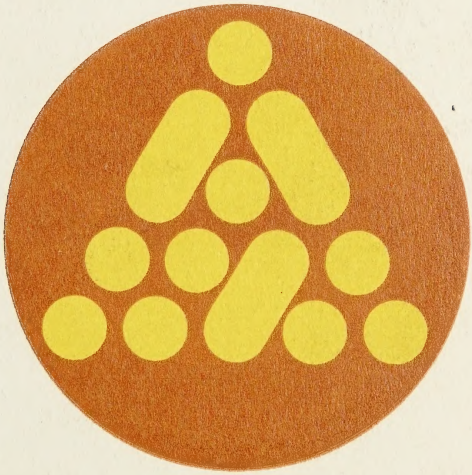
Report of
the Select Committee
of the Ontario Legislature
on

THE COST OF DRUGS



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Hon. H. L. Rowntree, Q.C., *Chairman*	York West
Robert J. Boyer	Muskoka
Kenneth Bryden	Woodbine
J. A. Fullerton	Algoma-Manitoulin
G. F. Lavergne	Russell
H. J. Price	St. David
R. E. Sutton	York-Scarborough
J. B. Trotter	Parkdale
John White	London South
Norris Whitney	Prince Edward-Lennox
Albert Wren (Deceased)	Kenora

Harold A. Rice	*Committee Counsel*
W. J. Ayers, C.A.	*Consultant*
S. J. Gadsby, F.C.I.S.	*Committee Secretary*

Appointed April 6, 1960
Re-appointed March 16, 1961 and April 18, 1962

LETTER OF TRANSMITTAL

TORONTO, ONTARIO

APRIL 26TH, 1963

TO THE HONOURABLE THE LEGISLATIVE ASSEMBLY
OF THE PROVINCE OF ONTARIO.

HONOURABLE MEMBERS:

On the 6th of April, 1960, during the Second Session of the twenty-sixth Legislature, the following resolution was passed on the motion of the Honourable Leslie M. Frost, Q.C., Prime Minister of Ontario, seconded by the Honourable William A. Goodfellow, Minister of Agriculture:

"THAT a select committee of this House be appointed to inquire into, study and review the entire matter of the cost of drugs and pharmaceutical preparations of all kinds used for the treatment of patients in public general and mental hospitals and sanatoria in Ontario, and all matters relevant thereto including the present distribution, analysis, storage, inventory and accounting thereof in such institutions, and in particular as to whether costs are reasonable, having regard to costs of production and the costs charged to the general public;

"AND that such select committee shall consist of eleven members and shall have authority to sit during the interval between sessions and have full power and authority to call for persons, papers and things and to examine witnesses under oath, and the assembly doth command and compel attendance before the said select committee of such persons and the production of such papers and things as the committee may deem necessary for any of its proceedings and deliberations, for which purpose the honourable the Speaker may issue his warrant or warrants."

On the 12th day of April, 1960, pursuant to the above-noted resolution the following resolution was passed on the motion of the Honourable Leslie M. Frost, Q.C., Prime Minister of Ontario, seconded by the Honourable James N. Allan, Treasurer:

"THAT the said Committee consist of eleven members as follows:
Mr. Rowntree (Chairman), Messrs. Boyer, Bryden, Fullerton, Lavergne, Price, Sutton, Trotter, White, Whitney and Wren."

On the 16th day of March, 1961, during the Second Session of the twenty-sixth Legislature, the following resolution was passed on the motion of the Honourable H. L. Rowntree, Q.C., Minister of Transport, seconded by the Honourable Leslie M. Frost, Q.C., Prime Minister of Ontario:

"THAT the Committee be re-appointed and continue with the same membership and all the same powers and duties as heretofore."

On the 18th day of April, 1962, during the Third Session of the twenty-sixth Legislature, on the motion of the Honourable John P. Robarts, Prime Minister of Ontario, seconded by the Honourable James N. Allan, Treasurer, it was ordered:

"THAT the Select Committee appointed to inquire into the cost of drugs be re-appointed and continue with the same membership and all the same powers and duties as heretofore."

This Committee having completed its work, respectfully presents the report which follows:

H. L. ROWNTREE, *Chairman*

ROBERT J. BOYER, M.P.P.
KENNETH BRYDEN, M.P.P.
J. A. FULLERTON, M.P.P.
G. F. LAVERGNE, M.P.P.
H. J. PRICE, M.P.P.
R. E. SUTTON, M.P.P.
J. B. TROTTER, M.P.P.
JOHN H. WHITE, M.P.P.
NORRIS WHITNEY, M.P.P.
ALBERT WREN, M.P.P. (Deceased)

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INTRODUCTION

Appointment and Terms of Reference

This Committee was appointed pursuant to a resolution which was passed on the 6th day of April, 1960, with the following terms of reference:

> "THAT a select committee of this House be appointed to inquire into, study and review the entire matter of the cost of drugs and pharmaceutical preparations of all kinds used for the treatment of patients in public general and mental hospitals and sanatoria in Ontario, and all matters relevant thereto including the present methods and practices followed in respect of the purchase, distribution, analysis, storage, inventory and accounting thereof in such institutions and, in particular as to whether costs are reasonable, having regard to costs of production and the costs charged to the general public;"

Whereas other investigations are concerned with restraint of trade and price fixing and monopolistic situations, viz.:

Kefauver Committee

> As stated in the opening remarks of the hearings in the U.S., Part 14, Page 7839, "While there shall be presented figures, where appropriate, showing the prices to consumers and the prices to druggists, thereby indicating the retailer's gross margin, no attempt shall be made to appraise the reasonableness or unreasonableness of this margin. That is something that will have to be left up to the public and to the people involved."

Restrictive Trade Practices Commission inquiry

> This Commission was established by the Government of Canada pursuant to Section 42 of the Combines Investigation Act, and according to Page 9, Volume 1, of the Commission's record of hearings, "Shall carry out an inquiry concerning the existence and effect of conditions or practices having relation to any commodity which may be the subject of trade or commerce and *which conditions or practices are related to monopolistic situations or restraint of trade* and for the purposes of this Act any such inquiry shall be deemed to be an inquiry under Section 8."

the Ontario inquiry by its terms of reference is directly concerned with the reasonableness or unreasonableness of price.

Definition of Drugs

"Drugs" are broadly defined as preparations used for the prevention or treatment of illness. The word "drug" as specifically defined in The Pharmacy Act, 1953, amended 1957, Section 1, Clause (d) is as follows:

> "(i) any substance that is named in the latest edition from time to time of the British Pharmacopoeia, the British Pharmaceutical Codex, the Pharmacopeia of the United States of America, the National Formulary, the New and Non-Official Remedies, the Canadian Formulary, the Codex Francais or the Pharmacopeia Internationalis, or
>
> (ii) any preparation containing any substance mentioned in subclause (i), or
>
> (iii) any substance that is offered for sale or sold for the prevention or treatment of any ailment, disease or physical disorder,
>
> but does not include any such substance or preparation offered for sale or sold as, or as part of, a food, drink or cosmetic for any purpose other than the prevention or treatment of any ailment, disease or physical disorder;

and under Section (1), Clause (i)

> "prescription" means a direction from a legally qualified medical practitioner, dentist or veterinary surgeon directing the dispensing of any drug or mixture of drugs to a named person;"

The Committee, for the purpose of its inquiry and this report, accepted that "drugs" within the meaning of the terms of reference included any medication which was normally obtained by way of prescription or order from a medical doctor.

The terms "pharmaceutical", "ethical" and "prescription" drugs are interchangeable in denoting preparations which reach the public through hospitals and retail pharmacists on the prescription or recommendation of physicians or, within prescribed limitations, by dentists or veterinarians.

Background to Appointment

The Legislature deemed it advisable to appoint a Select Committee to inquire into the matter of drugs and to consider whether such prices are fair and reasonable, with particular reference to Ontario public institutions and having regard to production and marketing costs, due to widespread public concern over the cost of drugs in Ontario, which was reflected in letters to Members of Parliament and statements appearing in the press and other media.

The extent of public interest over the cost of drugs and medical care is manifest in the development of organizations to take care of such services: Mail-order prescription pharmacies have been established: Prepaid prescription plans have been started, notably in Windsor, and other drug plans are

under consideration and some insurance policies now include coverage for drugs.

Because the Committee's terms of reference were directed at ascertaining the reasonableness of drug charges in institutions, having regard to the cost of manufacture and cost to the general public, the Committee of necessity heard evidence on many aspects relating to problems of manufacture, distribution and use of drugs in Ontario. The formidable nature of the inquiry will be appreciated, when recognition has to be given to the many economic and social factors involved.

Procedure

The Committee appointed Mr. S. J. Gadsby, F.C.I.S., as Secretary; Mr. Harold A. Rice, Q.C., as Counsel and Mr. W. J. Ayers, C.A., as Consultant, to assist the Committee in assembling and co-ordinating the extensive volume of material obtained from a variety of sources during the investigation.

Prior to the commencement of proceedings, the Secretary assembled, and made available to the Committee, copies of pharmacopoeias used in Ontario and elsewhere, formularies, textbooks, pertinent regulations and acts, journals and price lists covering the majority of drugs sold in Ontario.

Notices of hearings were sent to provincial departments, associations, public bodies, legal representatives and any other interested persons or groups. Subsequently, an agenda for the hearings was prepared and public hearings commenced in Committee Room 1, Parliament Buildings, on June 14, 1960, and continued during the months of June, September and October of 1960.

Hearings were resumed on June 5, 1961, and continued intermittently until November 16, 1961.

During this period the Committee held 38 public hearings and heard 61 briefs and 70 witnesses. In addition, the Committee subsequently visited a number of hospitals, institutions and manufacturing plants.

All hearings were open to the public and the press and all briefs and submissions were presented personally by the individuals concerned, some of whom were representatives of groups or associations. In addition to the Committee members, all persons present had an opportunity to question any witness either directly or through the Counsel of the Committee.

An invitation was extended to interested persons wishing to appear before the Committee to make any presentation or recommendations and the Committee received and heard all presentations without reservation. Submissions were heard in their entirety without any curtailment or elimination.

A full report of all proceedings was prepared daily and transcripts were obtainable by anyone who wished to make the appropriate arrangements with Angus, Stonehouse and Company, the Official Reporters. Copies of the 31

volumes containing 3,134 pages of transcript of the proceedings are submitted with this report.

The majority of the witnesses appearing before the Committee did so at the invitation of the Secretary. These included representatives who were outstanding in their various fields and who were well qualified to contribute authoritative information to the Committee. A list of the individuals and organizations who presented submissions is contained in Appendix A to this report.

Questionnaires were sent out and a consolidation of the information contained in the replies thereto forms part of the material upon which this report is based. Copies of these questionnaires and surveys are attached as appendices hereto and are as follows:

All evidence presented at the hearings was tabulated, indexed and cross-referenced, and clipping books of newspaper reports and other material relating to and of interest to the inquiry were compiled and were available for use by the Committee.

A brief tribute and reference to the untimely death of Mr. Albert Wren, Member for Kenora, on November 1, 1961, will not be amiss at this point. His sudden demise was a sad blow and his deep and active interest in the work of this Committee as well as his unfailing sense of humour are sincerely missed by all concerned.

Outline of Report

This report is composed of nine parts:

Part I – General information regarding the use of drugs, purchasing and the growth of the drug industry in Ontario.

Part II – Submissions made by witnesses representing the medical and dental professions.

Part III – Submissions, comments and observations made by witnesses representing the manufacturers of drugs.

Part IV – Submissions, comments and observations made by witnesses representing wholesalers and distributors of drugs.

PART V – Submissions, comments and observations made by witnesses representing retail pharmacists.

PART VI – Submissions, comments and observations made by witnesses representing public institutions.

PART VII – General conclusions and consideration by the Committee whether costs of drugs in institutions are reasonable, having regard to the costs of production and the costs charged to the general public.

PART VIII – Supplementary recommendations and proposals.

PART IX – Appendices.

PART I

GENERAL INFORMATION

History

Investigation into matters relating to drugs can only be effective with an historical knowledge of the use of drugs in the treatment of disease and illness. The "Science of Medicaments" has a history going back many centuries; the drugs most widely used today have a history of a relatively few years.

According to Dean F. N. Hughes, Faculty of Pharmacy, University of Toronto, in the 300 years prior to 1900, the life span of an individual had been lengthened by only 14 years, whereas since 1900, the average life span has been lengthened by more than 20 years, and the discovery and development of the new "miracle" drugs is an important contributing factor. The Dominion Bureau of Statistics lists life expectancy figures for the years 1900 and 1959 as follows:

	Male	*Female*
1900	48.2	51.7
1959	67.3	73.9

When considering drugs, it must be kept in mind that a new drug can be a modification, can supersede or make obsolete an established drug, or it can become an addition to the many drugs in existence. Thus, there is an ever-increasing number of pharmaceuticals being made available and it can be stated that the majority of the drugs being prescribed today have been developed within the past two decades.

This revolutionary development in medicine can be most readily illustrated when one considers that the most important medicaments in general use in 1910 were ether, morphia, digitalis, diphtheria antitoxin, smallpox vaccine, iron, quinine, iodine, alcohol and mercury and comparing this with the profusion of preparations available today.

Names Under Which Drugs are Identified

Distinctive names are an essential phenomena in modern society and this is particularly applicable in the case of drugs. Between 300 and 400 new

prescription products are introduced in the U.S. and Canada each year and, according to one authority, there are as many as 150,000 known drugs at the present time.

Dr. C. A. Morrell of the Food and Drug Directorate pointed out that there are an estimated 25,000 pharmaceutical products being offered for sale in Canada and it has been reported that there are some 5,000 named, dispensed pharmaceutical products available in Canada.

Drugs are known by at least three different types of names:

1. *Chemical Name.* Every substance developed is assigned a chemical or scientific name which is derived from the structure of the preparation.

2. *Generic Name.* It is extremely difficult to describe how generic names have been selected and adopted. Until recently there have been few, if any, rules or regulations applicable to the selection of such names. The choice was generally left to the discretion of the industry.

For the purposes of the Food and Drugs' Act (labelling, packaging and advertising requirements), the manufacturer who discovers and introduces a new drug submits one or more names to the Food and Drug Directorate. If the Food and Drug Directorate agrees, the name selected becomes the recognized or proper or generic name of the drug. The drug itself becomes "official" upon inclusion in the Food and Drug regulations or in any of the recognized publications such as the World Health Organization International Pharmacopeia, the British Pharmacopeia, the Pharmacopeia of the United States, the Codex Francais, etc.

Somewhat the same procedure was followed in the U.S. until fairly recently when a Joint Committee of representatives of the American Medical Association and the U.S. Pharmacopeia was formed. The Joint Committee drew up a series of rules which were distributed to manufacturers suggesting principles on how names should be selected. Recent legislation passed in the U.S. gives the government final authority for approving the names but, in practice, the Joint Committee is responsible for approving names.

There is evidence of increasing co-operation on an international level. The World Health Organization, which numbers most of the recognized pharmacopeia groups as members, has drafted a list of guiding principles in the selection of "non-proprietary" names (which is the term preferred now, instead of generic) with a view to ending the confusion and achieving some uniformity, but there would appear to be room for more co-operation in the whole matter.

Since Canadian manufacturers are, to a large extent, U.S. controlled, and many drugs used in Canada are imported from the U.S., we tend to use the U.S. names.

The generic name usually bears some resemblance to the chemical characteristics of the preparation, or is a shortened combination of the chemical

name. The manufacturer is required by law to label drug products with the "proper or common" name, as defined in the Food and Drugs Act, which is usually the generic name.

3. *Trade Name.* If the drug is medically useful and is put on the market, the manufacturing firm may patent the process for its own protection and usually assigns a "trade" or "brand" name to the drug product. The trade name is registered as its exclusive trademark and thus provides further protection.

Illustrations of the use of these three categories of names are as follows:

Chemical Name — 2-Methyl-2n-propyl-1, 3-propanediol dicarbamate

Generic Name — Meprobamate

Trade Names — Equanil, Miltown, Meprospan, Meprotabs

The chemical name identifies the product and is useful only to the scientifically trained.

The generic, sometimes referred to as the proper or common name, provides a means of identification for medical purposes. The use of the generic name cannot be protected and may be used by any manufacturer or person.

Generic terminology is taught and encouraged in medical schools and faculties of pharmacy but some generic names are complex, difficult to pronounce and hard to remember. Examples of such names are sulfisoxazole, triacetyloleandomycin and prochlorperpazine ethanedisulfonate. Consequently, this is a factor in the preference shown by doctors in prescribing by trade name, although we understand there is an increasing tendency towards the use of generic names. However, the proportion is still small and druggists report that less than 20 generic products may be stocked in an inventory of 1,800 different pharmaceuticals.

Trade names need have no relation to the composition of the drug and are chosen to be short, simple and easy to remember; for example Tao for triacetyloleandomycin. Thus, trade names can be applied to both single component drugs and those which are combinations of several drugs and there may be many different trade or brand names for one chemical entity such as Reserpine: — Rauloydin, Raurine, Rau-Sed, Reserpine, Reserpoid, Sandril, Serfin, Serpasil, and Serpate.

Some drugs are available only under trade or brand names as they are controlled through patents by one firm. In some cases, a manufacturer may have agreements with a limited number of firms to manufacture the product and the Patent Act does provide for compulsory licensing under certain circumstances. This is a procedure whereby a firm may apply for a licence to manufacture a product under patent, but this privilege is seldom exercised.

There may or may not be a product under a "generic" name available due primarily to patent protection of a "trade" name product. Nevertheless, equivalent forms similar to the trade name products are introduced by small

"generic" drug companies, but generic equivalents are not always available. This is notably so in the case of a compound drug which is a mixture of two or more chemicals and for which there is necessarily no single, usable generic name.

From material submitted by Prescriptions Services Incorporated of Windsor (Green Shield Plan), a survey of 781 prescriptions showed that 376 were for brand name products containing more than one medical ingredient for which no substitute would be available. Of the remaining 405 prescriptions for products containing but one single medical substance, 121 were for brand name products which were not available from more than one manufacturer, 35 were for drugs that could be procured under more than one brand name and 249 were for drugs that may be procured under a generic name and, in some cases, another brand name.

Pharmacopoeias and Formularies

The rapid increase in the number and type of drugs has created problems in keeping abreast of the developments. One of the main difficulties encountered is the indexing or listing of drug information. To meet this problem, official books known as pharmacopoeias and formularies have been published by committees and associations of various countries.

The following extract from "Pharmacology in Medicine", a textbook edited by Dr. Victor A. Drill, Ph.D., Lecturer in Pharmacology at Northwestern University Medical School and University of Illinois College of Medicine, describes fully the nature and purpose of these publications:

> "A pharmacopoeia is a book published by authority of a national government, or representatives of several governments, and containing a list of medicines and compounds, the manner of preparing them together with the weights and measures by which they are prepared and mixed, their doses, identification, and where necessary, the method of assay. When drugs become little used, they are deleted from the new edition and newer drugs are added.
>
> "In addition to the pharmacopoeias of the various nations, we now have a Pharmacopoeia Internationalis. The first edition of this was published in 1951 by the World Health Organization.
>
> "The Pharmacopoeia of the United States (U.S.P.) was published in 1955 and is now in the fifteenth revision. In the United States there are two other publications which supplement the pharmacopoeia: the National Formulary (N.F.), which is published periodically by the authority of the American Pharmaceutical Association; and the New and Nonofficial Drugs (N.N.D.), published annually under the direction and supervision of the Council of Pharmacy and Chemistry of the American Medical Association. The purpose of the National Formulary is to

establish and proclaim standards of drugs and to standardize formulas for unofficial preparations which are being used by physicians. It differs from the pharmacopoeia in that the inclusion of a drug is determined not only by its therapeutic value but also by the extent of its use. The New and Nonofficial Drugs is designed to evaluate the newer drugs, both before and after they have been admitted to the U.S.P. It describes the properties of these drugs in which the physician is particularly concerned, that is, their actions and uses, dosages, including details of administration, the commercial preparation available, and the names of the manufacturers. A brief description of the drug and its structural formula is also included.

"In Canada and Great Britain the British Pharmacopoeia (B.P.) is official (it should be noted, however, that other works are acknowledged in Ontario — see paragraph below), but under the regulations of the Canadian Food and Drugs Act, provision is made for modifications, such as additions, to meet the needs of medical and pharmaceutical practice. These modifications are contained in the Canadian Formulary (C.F.), published by the Canadian Pharmaceutical Association.

"The United States Pharmacopoeia (U.S.P.) is used a great deal in Canada, and many preparations sold in Canada conform to the U.S.P. rather than the B.P., largely because the United States is the source of a great number of drugs used in Canada."

Some of the works which have received wide recognition and the ones acknowledged in Ontario are:

Pharmacopoeia Internationalis
The British Pharmacopoeia
The Pharmacopoeia of the United States of America
Codex Francais
The Canadian Formulary
The British Pharmaceutical Codex
The National Formulary
New and Nonofficial Remedies

In addition, a number of hospitals in Ontario have adopted formularies for their own use and others are in the process of developing formularies. (See survey of Hospitals — Appendix C.)

Augmenting the formularies and pharmacopoeias as reference material, data in the form of literature, index cards and publications are made available to hospitals, physicians, teaching faculties, retail pharmacies, government institutions, etc. through the courtesy of certain manufacturers. One of those widely distributed is the "Vademecum International".

Other sources of drug information mentioned which are available to the medical profession in the U.S. are the "Medical Letter" and "Mediphone".

The "Medical Letter", which is subscribed to by a number of Canadian doctors, is published and distributed every second week by "Drug and Therapeutic Information Incorporated" of New York. The advisory and editorial board of this publication is composed entirely of doctors. "Medi-phone", which is located in Washington, is a new service for physicians which went into operation in January, 1962, to provide doctors all over the country with information on drugs and was founded by a New York physician.

As stated earlier, attempts at standardization of the names used for drugs and medications are being made and the World Health Organization is striving to bring about some uniformity in this regard.

Control of Drugs

To protect the public and to ensure the purchaser obtains a quality product, there are a number of legislative controls with regard to the manufacture and distribution of drugs. Some of the federal and provincial Acts are as follows:

The Pharmacy Act (Ontario)
The Food and Drugs Act and Regulations (Dominion)
The Opium and Narcotic Drug Act (Dominion)
The Excise Act (Dominion)
The Proprietary and Patent Medicine Act (Dominion)
The Pest Controls Act (Dominion)
The Feeding Stuffs Act (Dominion)
The Patent Act (Dominion)
Trade Mark Act (Dominion)

Ontario Pharmacy Act

The pharmacists of Ontario practise under a provincial statute known as the Pharmacy Act. The Act provides for the standard of education and training required to become a pharmacist and a system of licensing which ensures that only a person so trained will be able to practise.

The ownership of pharmacies is restricted to registered pharmacists and the administration and enforcement of the Act is the function of the Ontario College of Pharmacy. The College of Pharmacy, established by the Pharmacy Act, operates a separate department for inspection services to protect the people of Ontario against malpractice and infractions of legislation affecting the distribution of drugs and poisons to the public.

A schedule of fees has been developed by the College as a guide to pharmacists, but it was repeatedly stated that the control and checking of prices is not a function of the College.

Dominion Legislation

Food and Drug protection in Canada is maintained by the Food and Drug Directorate of the Department of National Health and Welfare. The Food and Drugs Act is part of criminal law and it lays down standards and other requirements that will minimize health hazards and fraud in the use and sale of these products. The Act outlines areas of responsibilities for the manufacturer and distributor including retail pharmacists and it is the function of the Food and Drug Directorate staff, by one means or another, to persuade manufacturers to accept their responsibility.

The Food and Drugs Act does not guarantee that drugs will meet the quality standards expected of them. It does correct violations whenever such infractions are found and, in certain cases, punishes those who do not accept their responsibility. How the policing of the drug industry is carried out has been outlined by Dr. Morell, Director, Food and Drug Directorate, and reported in the September 1960 issue of the Canadian Pharmaceutical Journal. These points are summarized as follows:

1. Biological products and injectable antibiotics are manufactured under licence. The premises, staff, procedures and records of the manufacturer are critically examined before a licence is granted. Inspection is severe and carried out by an expert.
2. Drugs sold under the Proprietary or Patent Medicine Act are registered and their makers are licensed.
3. There is a list of drugs in the Food and Drug regulations that can be advertised to the public only if the dosage is below a prescribed level.
4. New drugs are defined in the regulations and no one may sell a new drug to the public until a complete description of experiments, tests, controls and clinical trials to determine its safety, has been received and accepted by the minister.
5. Drug manufacturing plants are periodically inspected in order to observe control procedures employed by the production department and in the laboratory. (The Food and Drug authority have no effective means of enforcing the correction of unsatisfactory procedures other than seizure of products which are in violation of the Act [Sec. 21 (1) (d)].)
6. A section of the Food and Drugs Act prohibits the advertising of any drug to the public as a treatment, preventive or cure for a list of serious diseases that require competent medical diagnosis and treatment.
7. There are specific regulations pertaining to the labelling of drugs. These are designed to inform the physician, pharmacist and the public as to what is supplied in the package, how much there is, what the dosages are and other information required for safety and proper use of the drug.

8. There is a list of drugs that may be sold only on prescription.
9. There are also standards for drugs provided in the regulations. A list of pharmacopoeias and other recognized official compendia that provide other standards for drugs in Canada is given in a schedule to the Act.
10. There are many other miscellaneous requirements for drugs including vitamin preparations given in the regulations. All are designed to minimize health hazards and fraud.

Prescribing

As an additional protection to the public, certain drugs have been restricted to sale by prescription only. The persons qualified to prescribe are established by the Ontario Pharmacy Act, and are:

Medical practitioner
Dentist
Veterinary surgeon

A prescription is a written order of a physician to a pharmacist for one or more drugs. It contains the names of the drugs, the quantities in which they are to be used, the instructions to the pharmacist as to how they are to be compounded, and the directions to the patient.

The drugs that must be purchased upon prescription only are contained in Schedule C and Parts 1 and 2 of Schedule D of the Ontario Pharmacy Act and Parts I and II of Schedule F, Food and Drugs Act.

The purpose of the prescription list, according to Dr. C. A. Morrell of the Federal Food and Drug Directorate, is essentially a matter of public health. Drugs are included on the list so that they may legally be purchased only on the order of a doctor or dentist who is licensed by the province to practise. Why some drugs are included and others are not is a question of administrative policy. A drug is not necessarily put on the list solely for its toxicity. Most drugs themselves, if improperly used, are dangerous. The main reason for including a drug on this list is whether it may be abused or misused by the public. A few are on the list because of a specific danger and might be used improperly and others are on the list for other purposes.

Drugs can be classified as falling into three general classifications:

1. Prescription — those which may be dispensed by a pharmacist only on the prescription of a qualified medical practitioner. In brief, prescription drugs are those that are not safe for a layman to use in self-medication.
2. Over-the-counter — over-the-counter drugs have been described as those which cannot be advertised but can be promoted by being on display in pharmacies. The use of these drugs is not legally restricted

by prescription but they are usually sold this way or on the recommendation of a physician.

3. Patent Medicines — preparations which are registered under the Proprietary or Patent Medicine Act and can be sold to the general public without benefit of prescription.

Inspection

The Food and Drug Directorate has been established by the Dominion Government to ensure enforcement of federal legislative requirements which establish drug standards, packaging requirements, labelling, advertising, control of sale of remedies for certain diseases, imports and exports and checking of records when necessary.

It was submitted to us in the evidence, however, that shortage of staff slowed down the work of the Directorate and hampered its activities in some areas.

The Ontario College of Pharmacy employs inspectors to police pharmacists and pharmaceutical chemists in Ontario with particular reference to Ontario legislative requirements.

DRUG BILL

The average cost of a prescription has gone up from $1.68 in 1951 to $3.14 in 1961; an increase of 86%, but the point should perhaps be made here that part of the increase in the cost of drugs can be attributed to the increased use of drugs. The total value of prescription drugs in Canada has risen from $52,010,574 in 1951 to $133,578,157 in 1961; an increase of 150.3%. In Ontario, the total prescription figures are $42,022,833 in 1959 and $42,064,000 in 1960.

Savings to Ontario Institutions

We have been informed that the cost of drugs purchased by the Department of Health has been declining since this Committee was constituted in April 1960, and since that time, savings amounting to approximately $500,000 were realized by the Ontario government on the purchase of drugs without decreasing the quality or quantity of the drugs purchased.

Throughout the proceedings, frequent recommendations were made for the establishment of a system of central buying and testing, particularly with regard to the larger institutions and, in the concluding segment of the hearings, a plan for implementing a programme of central buying and testing was advanced by the Ontario Department of Health.

The Department of Health has made substantial progress in these areas to date and reports that the testing programme has continued to expand at a

marked rate since the programme was established in February of 1960. New drugs in the mental health field have been added to the testing programme and anti-tuberculosis drugs have been tested as well during the past six months.

The test procedures continue to be carried out by the Attorney-General's Laboratory. 34 test reports were recorded in 1960, 103 in 1961, 111 in 1962 and 8 to date in 1963. As well as this, a large number of special tests have been performed to deal with specific problems.

Shortly after the inception of this programme by the Department, it became obvious that the establishment of a central pharmacy would result in a smoother flow of drugs to the testing laboratory and to the Ontario Hospitals, and in reduced costs and wastage due to larger purchases and more frequent orders being placed by the hospitals. In July 1962, the Department employed a distinguished Canadian pharmacologist as a part-time consultant to advise the Department on all matters relating to the drug testing programme. He recommended a plan for a central pharmacy and the Department is now considering its establishment.

Specifications have been prepared so that manufacturers may be aware of the standards required by the Department for drugs purchased. Specifications were established for drugs in various categories that could be purchased under a generic name and revisions have been made at frequent intervals. Specifications are now used for 41 products including tranquillizers, sedatives, anti-tuberculosis drugs and analgesics. In addition, of course, a large number of drugs are required to meet other standards: e.g., U.S.P., B.P., N.F., C.F., and these are tested against such standards. Whenever possible, drugs are purchased under their generic name.

It is felt that the usefulness of the Committee became apparent directly following the first sittings in June, 1960, in that the activities of the Committee prompted many hospitals throughout the Province to review their position relating to procedures and use of drugs.

Advertising

Advertising of drugs, as defined in the terms of reference, is prohibited to the general public but advertising is not prohibited when directed toward the medical practitioner and the pharmacist. Consequently, a specialized type of advertising and promotion programme has been developed and the various methods employed by the drug manufacturers include:

Detailmen
Direct Mail
Medical journal advertising
Free samples
Medical Conventions
Hospital Conventions

Varied opinions were expressed with regard to the extent and expense of advertising campaigns and their educational value to doctors.

With respect to the subject of samples, reference should be made to the recent legislation, which confines the distribution of drug samples to a written request.

Medical Practitioner

The medical practitioner, according to law, professional practice and principle, has an absolute right to prescribe whatever drugs he considers proper and necessary for his patient, and it is the function of the pharmacist to dispense the prescription exactly as it has been written. To this extent, the public has the added assurance of the protection of the medical practitioner with regard to the drugs prescribed.

The cost of a prescription, we understand, is not the prime concern of a physician but, rather, the prescribing of the best and most effective treatment for his patient. We were informed that medical practitioners were frequently not aware of the price of drugs, and that reference and advertising material available to doctors seldom contained information as to prices.

PART II

SUBMISSIONS MADE BY WITNESSES REPRESENTING THE MEDICAL AND DENTAL PROFESSIONS

The persons permitted by law in Ontario to prescribe drugs are the medical doctor, the dentist and the veterinarian.

The medical practitioner is authorized by law not only to prescribe drugs but also permitted by law to fill prescriptions.

The evidence we have indicates that there are not many medical practitioners doing their own dispensing. On the whole, the medical profession appeared to welcome the services of the pharmacist. However, the physicians did insist that their right to prescribe should remain unfettered and, that their right not only to prescribe but also the manner in which they wish to prescribe: i.e., by generic or trade name, is essential to the welfare of his patient and society.

It was variously submitted to us by individual medical witnesses that the number of prescriptions issued by them averaged 25 to 30 per week, about 100 a month, between 1,500 to 2,000 per year and, a medical clinic reported, a total of 28,000 per year.

Medical men have mixed feelings toward detailmen, mail advertising and samples that are circulated by manufacturers and, although it was felt that a large part of the literature distributed was wasted, the majority of doctors informed us that they retained the samples and used them for the benefit of deserving patients. Many hospital and medical men indicated that they appreciated visits from the detailmen as this was a means of keeping abreast of new drugs being introduced.

The majority of doctors preferred to obtain information about new drugs from their own medical conventions and their own medical journals in which they had developed faith. However, a number of opinions were expressed that one of the main difficulties facing doctors was the lack of impartial information dealing with drugs, and medical witnesses indicated that they would welcome an independent source giving practical and unbiased guidance on new drugs. Some medical men regarded with suspicion information

emanating from the manufacturers as being possibly exaggerated and biased. One suggestion made was for the publication and distribution by an independent source of a periodical similar to the "Medical Letter" to enable doctors to keep pace with new developments and changes.

It is evident that a doctor's first consideration must be the health and welfare of his patient. Only after the health and welfare of his patient have been established can he consider the price of a medication and then prescribe the most effective drug. Cost, therefore, is not necessarily the prime concern of the doctor but it was affirmed if he did have a choice between two drugs of equal effectiveness he would, in the interest of economy, prescribe the less expensive drug.

There appears to be more encouragement by medical schools and other sources for the medical practitioner to prescribe by generic name, thereby permitting pharmacists to fill a prescription with a drug supplied by any manufacturer. However, a large percentage of doctors prefer certain manufacturers above all others and, consequently, prescribe by trade name to ensure that the pharmacist will fill their prescription with the particular drug which is a product of the manufacturer of their choice.

The practising dentist prescribes few drugs and those used are well established. Consequently, the dental profession encountered no problems concerning the availability of information.

The total cost of drugs used by the dental profession in Ontario was estimated at approximately $1,000,000 which forms a very small percentage of the total drug bill for the province.

Dentists do not charge for the drugs used as a separate item but include the cost in the total charge to the patient since they form such a negligible part of the account.

Dentists purchase their drugs either from a retail pharmacist or from one of the dental supply wholesalers. Few, if any, dentists obtain the drugs they use direct from the manufacturers.

PART III

SUBMISSIONS, COMMENTS AND OBSERVATIONS MADE BY WITNESSES REPRESENTING THE MANUFACTURERS OF DRUGS

There were 196 companies engaged in pharmaceutical manufacturing in Canada in 1959, of which number 84 were carrying on business in Ontario. These firms constitute the "prescription" or "ethical" drug industry which manufacture preparations used or prescribed by physicians and promoted exclusively to them and to pharmacists, and the references in this part of the report are confined mainly to the 54 ethical pharmaceutical firms composing the members of the Canadian Pharmaceutical Manufacturers' Association.

Pharmaceutical manufacturing firms in Canada are largely financed and controlled outside of the country. The table quoted below provides a breakdown based on the financial source, and includes, we understand, those firms which are listed as full members of the Association.

Canadian financed	30%
U.S. financed	49%
U.K. financed	9%
European financed	12%

The distribution of manufacturing business in Canada in 1958, according to Dr. Brian Dixon of Queen's University, Economic Consultant to the Canadian Pharmaceutical Manufacturers' Association, was accounted for as follows: 53 firms accounted for 90% of the volume (37 of these companies sharing 84% of the volume), with the remaining 10% of the business being shared by 143 companies.

The drug manufacturing industry employed in 1959, according to Dominion Bureau of Statistics, 8,146 Canadians, at a wage and salary total of $31,133,539.

Type of Manufacture

It would appear from evidence before the Committee that the manufacture of drugs in Canada is not confined to any particular type or class of pharmaceutical preparation. Manufacture is varied and includes analgesics, anti-

coagulants, antibiotics, antitussives, ataraxic (tranquillizer) drugs, hormones and geriatric products, vitamin combinations, hematinics, anesthetics, antihistamines, sulfonamides, antispasmodic and antiepileptic drugs, as well as biologicals such as antitoxins, vaccines, insulin, glandular extracts, human serum products, etc., and radio-active isotopes. Basic chemicals for sale to other pharmaceutical manufacturers are also produced by firms such as Fine Chemicals of Canada. We were informed that any drug of therapeutic value is at the disposal of physicians and available to the public through the Canadian manufacturers.

Value of Manufacturing in Canada and Ontario

Prescription drugs and publicly advertised proprietary drugs are classified by the Dominion Bureau of Statistics under the single heading of "Medicinal and Pharmaceutical Preparations" and the total value of production in Canada by manufacturers of pharmaceuticals and medicinals in 1958 was $139,621,000, and in Ontario $81,589,954 (including about 10% for toiletries). The corresponding Dominion Bureau of Statistics figures for 1959 are: Canada, $154,334,000 and Ontario $85,512,720.

Manufacturing Organizations

Drug manufacturers in Canada have formed an association known as the Canadian Pharmaceutical Manufacturers' Association. At the request of this Committee, the Association issued a questionnaire to its members and submitted a report based on these questions. Mr. J. A. Little, C.A., who is associated with Clarkson, Gordon and Company, analyzed the replies and prepared the information which is termed "Compilation of Results of Special Questionnaire (dated May 3, 1960) Covering 1960 Figures" and which forms an appendix to this report.

It will be seen from this compilation that the profits derived from the manufacture of pharmaceuticals in Canada are not out of proportion with profits realized in other industries.

Exports

Canadian firms such as Nordic Biochemicals; Ayerst, McKenna and Harrison Limited; Charles E. Frosst and Company and Fine Chemicals have developed an export trade and export drug products to many countries the world over. The total value of drug exports, according to DBS figures, amounted to $6,758,844 from Canada in 1959.

Imports

Synthetic chemicals used in the manufacture of drugs in Canada are imported from the U.S. and various European countries. The value of this

imported bulk material, according to DBS, amounted to $22,313,418 in 1959. In addition, finished drugs in the amount of $10,114,799 were imported, bringing the total of drug imports into Canada to $32,428,217 for 1959.

Patents

Drug manufacturing in Canada is subject to Canadian Patent laws which provide, in essence, that only the process for developing a drug can be patented whereas the drug product itself cannot be patented. Thus, if a manufacturer can develop a new process for producing identically the same drug as that patented by another manufacturer, he can patent his process with the result that the patent law provides little safeguard to the original developer.

There are provisions in the Patent Act, i.e. compulsory licensing, by which a patent holder can be compelled to grant a licence for the use of his patent in certain circumstances and upon payment of fixed royalty. Consequently, any qualified manufacturer can apply and obtain a licence to manufacture under some other manufacturer's patent but we understand that this privilege is rarely invoked and there have been very few instances of compulsory licences being issued.

It will be noted that some countries do not observe patent legislation, e.g. Italy, Rumania, and are consequently not bound by any international patent agreements. Drugs from such countries can be imported into Canada with little or no question as to whether they contravene any Canadian patent rights.

Trade Marks

Under the provisions of the Canadian Trade Marks Act, a manufacturer can register a Trade Name for his product. The Trade Name is an exclusive right and there are no provisions in the Trade Marks Act to compel a manufacturer to permit the use of the registered trade name by anyone else. The Act thus provides protection against another manufacturer who imports the same, or a chemically similar drug, into Canada from marketing it under the registered trade name. Therefore, a manufacturer who imports the same, or a chemically similar drug, is obliged to market it under a generic name. The manufacturers submit that they find the best protection for their products by registering trade names under the Trade Names Act and marketing their products under these names, thereby endeavouring to establish a reputation of reliability for his trade name products.

Generic and Trade Names

A large number of the drugs marketed under a trade name are products of a compound nature and consequently no generic equivalents are available. These drugs can therefore only be marketed under the trade names.

Some generic names are longer and more cumbersome than trade names and there is a preference on the part of the physician to prescribe by the trade name, although the teaching practice in medical and pharmacy faculties tends to encourage the use of generic names.

Drugs in Ontario are sold both under generic and under trade names. The use of the trade name is confined to the one manufacturer, whereas any manufacturer can market a drug under its generic name. Some manufacturers prefer to market under the trade name label, some prefer to market their products under the generic designation and others market some drugs under a generic name and some drugs under a trade name label.

Price differences between drugs marketed under generic names and drugs marketed under trade names were significant in some instances. Consideration was given to this problem and the differences are dealt with separately elsewhere in this report under the heading of "Price Variations".

Cost of Manufacture

According to the compilation relating to drug manufacturers, prepared by Mr. A. J. Little and attached as Appendix D to this report, the sales dollar has been applied to the cost of manufacture as follows:

Wages and Salaries	$31,183,000	24.3%
Employee Benefits	2,396,000	1.9%
Materials	36,765,000	28.7%
Excise and Sales Taxes	8,021,000	6.2%
Other Expenses (including such items as power, water, maintenance, etc.)	33,613,000	26.2%
Depreciation	2,157,000	1.7%
Taxes on Income	7,063,000	5.5%
Dividends	6,404,000	5.0%
Retained in the Business	601,000	.5%
		100.0%

PROMOTION

One of the items which is a contributing factor in the manufacturer's cost and which is reflected in the consumer price is the cost of advertising and promotion. According to information received, the average dollar percentage expended for this item was 29.2% and the highest expenditure for this purpose reported by one manufacturer was 35%.

Because of the limited group at which the manufacturer can aim his promotion programme, the advertising of drugs has developed into a pattern of its own employing among other methods, the following three most widely used forms of promotion:

Detailmen
Direct Mail
Sampling

These methods of promotion are admittedly costly, but manufacturers consider this expense essential and emphasize that they would gladly reduce expenditures on promotion if a more economical method of effecting sales could be devised.

Some medical representatives felt that much of the large volume of direct mail literature distributed went unread and was simply discarded, but most agreed that samples were retained and used for the benefit of needy patients. On the whole, doctors expressed the view that the system of transmitting information on drugs from the manufacturer to the medical practitioner could be improved.

Quality Control

The manufacturers submitted that another item which contributes substantially to their cost is quality control. All witnesses stressed the necessity for quality control of products to ensure that the preparations conformed with the necessary standards of strength, purity, quality identity and uniformity. These requirements can only be met by rigid quality control measures at the manufacturing level. Manufacturers estimate they expended between 9% to 20% of their sales dollar on quality control. Figures to illustrate the cost of quality control were difficult to estimate since many manufacturers could not isolate this item entirely from the other elements entering into manufacture.

Research

Another item included in the list of factors which contribute to the manufacturer's cost is research and development. All companies expressed the need for research, and estimated they expended between 1% and 15% of their sales dollar for this purpose. Some of this money was applied to pure research in Canada, some research was carried on in conjunction with universities or organizations outside of Canada and, in some instances, research dollars were in the form of grants to Canadian universities.

Connaught Medical Research Laboratories

We are particularly fortunate, in Ontario, in having Connaught Medical Research Laboratories which is a part of the University of Toronto. These laboratories were established in 1914 and have devoted close to 50 years to the advancement of preventive medicine and public health.

Its main purpose is to conduct medical research and to manufacture and distribute medical products with special emphasis on those which are important to public health. The most notable achievement, of course, was the development of insulin by Drs. Banting and Best.

Notwithstanding the fact that the laboratories are primarily interested in

research, as well as the manufacture of certain drugs, its policies do not inhibit other manufacturers from conducting research or manufacturing products developed by the laboratories. It is felt that the research facilities and opportunities available at Connaught have been an influence in retaining research workers in Ontario who might otherwise go elsewhere to pursue their research interests.

The laboratories produce biologicals and injectables such as antitoxins, vaccines, insulin, etc., and supply physicians, hospitals, druggists and departments of health. Most of the important vaccines are bought by provincial departments of health and distributed free to all doctors as a measure of public health. Salk vaccine is a case in point.

Biologicals and injectables, it should be mentioned, are manufactured according to specifications set by the federal government and the firms and institutions must obtain a licence to manufacture these specific preparations.

Marketing in Ontario

Manufacturers in Ontario market their products direct to retailers and hospitals as well as to wholesalers. In general, manufacturers have an established list price for their products and market their drugs as follows:

(a) list price less 40% to the retail pharmacists

(b) list price less 40% and an additional 16⅔% to the wholesaler

(c) at negotiated prices to institutions depending on quantity, etc.

The 11% federal Sales Tax applies to most pharmaceuticals with the exception of special drugs such as insulin and cortisone, and sale of drugs to hospitals. The sales tax is collected by the manufacturer and is an additional charge he makes on the price of his product. The tax is, of course, passed on through the wholesaler and retailer to the purchasing public.

Hospitals are exempt from the 11% Sales Tax provided they do not resell the drugs or, if resold, do not charge more than 10% over the cost on the resale of the pharmaceutical preparation. Thus practically all drugs sold to hospitals are tax free and the manufacturers can sell their pharmaceutical products to these institutions without applying the sales tax. As a consequence, this factor alone may account for the price paid by hospitals to be generally about 10% lower than the price paid by the retailer.

The tax rate under the Ontario Retail Sales Tax is 3%. Drugs and medicines when sold on the written prescription of a physician, dentist or veterinarian are non-taxable. By amendment effective April 1, 1962, dietary supplements, vitamins and insulin are now exempt from the tax, but other over-the-counter preparations and patent medicines which are purchased without prescription remain subject to the 3% sales tax.

PART IV

SUBMISSIONS, COMMENTS AND OBSERVATIONS MADE BY WITNESSES REPRESENTING WHOLESALERS AND DISTRIBUTORS OF DRUGS

Most manufacturers favour marketing their products through wholesalers but, mainly because of the inherent problems in advertising their products, some manufacturers also trade with the retailers and hospitals direct.

There are, in Ontario, wholesale businesses established for the purpose of supplying pharmacies with drugs and other commodities. A large number of retail pharmacies in Ontario are members of a co-operative wholesale company known as the Drug Trading Company. Other pharmacies have also organized to take advantage of group purchasing.

Normally, manufacturers sell to wholesalers and group purchasing organizations at 16⅔% below the price at which they sell to retail pharmacists.

The majority of public institutions do not use the services of a wholesaler for large quantity orders. They purchase direct from the manufacturer and thus obtain additional benefits in the form of substantial discounts for quantity or volume buying.

It may therefore be desirable and practical for the Hospital Association and other groups with the ability to make volume purchases to consider an alliance with established wholesalers. Special terms and discounts would doubtless result with perhaps a better utilization of the wholesaler and would remove from the hospitals the responsibility of developing their own warehousing service.

PART V

SUBMISSIONS, COMMENTS AND OBSERVATIONS MADE BY WITNESSES REPRESENTING RETAIL PHARMACISTS

Ontario College of Pharmacy

In Ontario all pharmaceutical chemists who dispense drugs in retail stores must be licensed by the Ontario College of Pharmacy. The Ontario College of Pharmacy does not operate a school for training pharmacists but is a licensing and disciplining body only. The only school in Ontario which offers a pharmacy course is the Faculty of Pharmacy of the University of Toronto and most of the licensed pharmaceutical chemists in Ontario are graduates of that faculty. All licensed pharmaceutical chemists in Ontario are members of the College and the control is centred in a Committee elected from the membership.

The College licenses all pharmacists who practise in Ontario but does not issue "shop licences" as such to pharmacies. However, the Registrar of the College does record all pharmacies operating in Ontario.

To carry out their discipline function, the College employs a number of inspectors who check on retail pharmacists to ensure that they are keeping records and operating their businesses in an approved manner. The College has its own Discipline Committee to deal with its own members and to prosecute non-members through the proper Ontario Court.

As an aid to members, the College developed information on pricing and distributes this guide called a "Method of Estimating Professional Dispensing Fees" to them.

Extent of Operation

Retail pharmacies or drug stores in Ontario in 1962 numbered 2,023, including 116 hospital and clinic pharmacies. Registered pharmaceutical chemists or pharmacists practising in Ontario in 1962 totalled 4,063; 2,419 engaged in retail pharmacy and the remaining number in teaching, industrial pharmacy, drug inspection, laboratory work, etc.

The Ontario College of Pharmacy grants licences each year to between 74 and 125 new pharmaceutical chemists, but this does not meet the requirements in Ontario due to retirement, death and growth of population.

The salary of a licensed pharmacist, engaged as such, is reported to be in the range of $7,000 to $10,000 per year.

Operation of a Pharmacy

In order to commence a pharmacy business in Ontario a pharmaceutical chemist requires a substantial investment for equipment and inventory. He is obliged to carry an increasingly large inventory of drugs and this situation is compounded by the problem of generic and trade names, the doctor's right to prescribe and the rule regarding no substitutions.

Most pharmacies obtain their drug supplies either direct from the manufacturer or from the wholesaler. The discount received from the manufacturer's suggested price is the same in most cases whether purchased from the manufacturer or from the wholesaler and is normally 40%. A quantity discount can be obtained by the pharmacy on large volume purchases but most retail pharmacies do not by themselves purchase on a sufficiently large scale to take advantage of any quantity discounts.

It is, we understand, economically essential for a pharmacy to sell commodities and merchandise other than drugs. The revenue from the operation of a pharmacy which can be allocated to the prescription department averages slightly more than 20% of the gross store revenue from sundries and non-proprietary items.

Another anomaly in pharmacy operation which was brought to our notice is the situation wherein a pharmacist is required to be on duty at all times while his store is open. This presents an obvious difficulty to the store with only one pharmacist who, in order to leave the premises for any purpose, must close his store with an ensuing loss of revenue and presumable inconvenience to his customers.

Types of Pharmacies

In addition to (1) the popular corner drugstore which sells many other items, some locations due to population density and other factors permit the operation of (2) pharmacies which do dispensing exclusively. Other pharmacies are associated with (3) institutions and clinics, (4) large department stores of which Eaton's and Simpson's are principal examples and (5) discount houses such as Honest Ed's. And a recent development is an instance of a venture into (6) mail order pharmacy.

Pricing Policy

Although the College of Pharmacy recommends a method of estimating the cost of a prescription, the pharmacist is not bound to follow the College's

method and often develops his own system of calculating the cost of a prescription. He takes into consideration the normal economic factors such as overhead, wages, cost of ingredients, time involved, delivery, competition, sales tax and professional fee.

These factors vary from pharmacy to pharmacy and the cost of a prescription also varies considerably from pharmacy to pharmacy.

Pharmacies do receive occasional complaints about the cost of a prescription but most complaints encountered by pharmacists were largely due to a misunderstanding as to how the price was calculated and an explanation to the purchaser usually cleared up the matter.

It was submitted that the average price of a prescription from a retail pharmacy in Ontario has risen from $2.98 in 1958 to $3.30 in 1961. The largest volume of prescriptions are in the under $3.00 class, and the more expensive medications costing $10.00 and over form about 10% of prescriptions dispensed.

Prepaid Prescription Plan

The only prepaid plan wholly concerned with prescription drugs available in Ontario is the Green Shield Prescription Plan. It is operated by Prescription Services Inc., which is a non-profit co-operative of member retail pharmacies and now includes some 400 pharmacies in Ontario.

Enrolment in the plan is limited to groups and the total membership has been held at between 1,000 to 1,300 as a pilot project.

The subscriber to the plan pays a monthly charge. This entitles the subscriber to obtain prescription drugs from any member pharmacy upon payment of a small deterrent fee for each prescription.

Role of the Pharmacist in the Community

Ethics and law require the pharmacist to safeguard the health and safety of a patient. The pharmacist is aware of his role as a citizen of the community and assumes the responsibility along with the medical practitioners and others to ensure that any drug requested is made available, sometimes even making special arrangements with manufacturers in certain cases of need. Thus the pharmacist is more than a purveyor and custodian of drugs for the community.

The pharmacist has direct contact with the public with regard to drugs and is the liaison between the public, the medical practitioner and the manufacturer. Thus both the public and the medical practitioner rely on the pharmacist's knowledge and skill in dispensing drugs, and his services are available to the public at all times.

The local pharmacist is also relied on by smaller hospitals and institutions as a source of supply for their drugs and dispensing.

PART VI

SUBMISSIONS, COMMENTS AND OBSERVATIONS BY WITNESSES REPRESENTING PUBLIC INSTITUTIONS

The public institutions referred to are those which the Committee considered within the scope of their terms of reference. Representatives of the various types of hospitals, schools for the deaf and blind, reform and other institutions closely associated with the public and which maintain dispensaries or drug rooms were heard.

General Hospitals

Procurement of drugs in hospitals is usually the responsibility of the pharmacist, or other qualified person, in co-operation with a hospital Pharmacy Committee. Some small hospitals sometimes engage a local pharmacist on a part-time basis. Other small hospitals obtain their prescription needs from a local retail pharmacy and where such a practice is in effect, a discount of 25% is usually allowed the hospital. Small hospitals operating in this way have found it more economical than maintaining a staff pharmacist and a large inventory.

It was reported that where a hospital pharmacy is operated, the procurement of drugs is on a quotation basis from suppliers with whom the hospital has established a preference, for reasons of both quality of product and service. Discounts to hospitals range up to 50% from list price with occasional special discounts for quantity being extended. Drug purchases are not subject to federal or provincial sales tax.

The accounting and administration procedures followed with respect to storage, inventories, distribution and accounting control are in accordance with the manual of procedure prepared by the Ontario Hospital Association.

Representatives from the following three classes of public general hospitals; viz.:

Group A—General hospitals affiliated with medical schools
B—General hospitals with 100 or more beds
C—General hospitals with less than 100 beds

as well as a representative from a hospital treating chronic ailments were heard from.

Some of the hospitals, principally the larger ones, maintain their own hospital pharmacies engaging a full-time dispensary pharmacist and staff, while others have a dispensary with no licensed pharmacist.

The Pharmacy Act is not applicable to hospitals and consequently, hospitals can maintain a dispensary without the necessity of having a licensed pharmaceutical chemist in attendance. However, as indicated, some of the hospitals do employ a licensed pharmaceutical chemist.

Inventory and Formulary

Most of the hospitals determine the type of drugs they will purchase upon the recommendation of a Pharmaceutical Committee, the actual purchasing being done by the pharmacist. This Committee is usually comprised of medical practitioners, hospital administrators and the pharmacist. Some hospitals have been able to develop a formulary which establishes the type and number of drugs that will be carried in the hospital dispensary, and physicians prescribing in the hospital are encouraged to prescribe within the formulary. Nonetheless, a prescription outside the formulary is always obtainable.

With the increase in the number as well as types of drugs and manufacturers, some system of formulary is being developed in most institutions and the Ontario Hospital Association has formed a committee to study the question of establishment of a hospital formulary system.

Purchasing

The public general hospitals usually purchase pharmaceuticals direct from the manufacturer and, in some instances, from a wholesaler. A number of the small hospitals, however, obtain their drugs from a local retail pharmacy.

Where applicable, large purchases are obtained by tender; otherwise, they are obtained at negotiated prices. In general, the larger hospitals are able to purchase drugs at a lower price than the small hospitals due to the large volume required but a few of the smaller hospitals are grouping together to purchase certain drugs enabling them to take advantage of the volume prices.

When purchasing drugs, hospitals are exempt from paying the 11% federal sales tax and the 3% Ontario sales tax.

Testing and Analysis

Some hospitals do a limited amount of testing in their own establishments, others obtain the services of outside laboratories for testing and a number rely entirely on manufacturer's warranties. To a large extent, most rely on

their own past experience and the reputation of the manufacturer in their selection of drug products.

Distribution and Accounting

Most public general hospitals distribute drugs to in-patients, out-patients and to the staff of the hospitals. The charges for drugs provided to in-patients are incorporated in the per diem rate and the hospital is reimbursed by the Ontario Hospital Services Commission on this basis. Out-patients' and staff prescriptions are usually billed at cost plus 10%. This is a nominal charge to the out-patient or member of the hospital staff and does not cover the complete cost of dispensing the drug.

Some 273 approved public general, chronic and convalescent hospitals are operating under the Ontario Hospital Insurance Plan which was inaugurated on January 1, 1959 and which is administered by the Ontario Hospital Services Commission. As already mentioned, drugs used while a patient is hospitalized are included in the per diem rates of these hospitals and the accounts paid by the Ontario Hospital Services Commission. Approximately 6 million persons in Ontario are enrolled in the Plan and this constitutes about 96.5% of the population.

The Ontario Department of Health

The Department is directly responsible for the operation of the Ontario hospitals in which the facilities are directed specifically to the treatment of mental illness. The provision of drugs for these institutions places the Department in the category of being one of the largest users of the numerous drugs available for the treatment of this particular type of illness.

With the advent of the tranquillizer type of drugs, the Department obtained its requirements direct from the manufacturer concerned; the drugs being new, the medical staffs necessarily depended on the developers to provide the essential controls as to strength and purity.

When these drugs became available at a later date under different trade names, the Department obtained the drugs on a quotation request basis.

Following the introduction of certain drugs under their generic names, the Department recognized that a variance in prices was becoming more evident and that the purchase of certain drugs by generic name would result in substantial savings to the government.

From the standpoint of the Department, it was felt that the use of the original drug should be continued unless a system of testing was developed to assure that a generic drug complied in every respect to the trade name product being used.

In order to effect every possible saving on drug expenditures, the Department of Health made arrangements, with the co-operation of the

Attorney-General's Department, to undertake the testing of drugs in the Attorney-General's laboratories. In addition to testing, specifications are being prepared for drugs used in the Ontario provincial hospitals. As a result of this testing programme, a substantial saving has accrued to the Department by purchasing generic products that proved acceptable.

In the interest of further economies, the Department is considering the introduction of a central pharmacy system. This would obviate the necessity of carrying large stocks in each hospital as supplies could be obtained as frequently as required from the central supply. The prime consideration of the Department, and this was repeatedly emphasized, is the standard of treatment and care to the patient, and no economy measures are considered which might in any way jeopardize the most effective medical treatment and protection possible.

Mental Hospitals

The Ontario mental hospitals, as mentioned in the foregoing paragraphs, are administered by the Ontario Department of Health. All drugs required for the treatment of both the in-patients and the out-patients are provided by the Department and no charge is made to the patient.

Sanatoria

Most tuberculosis treatment hospitals or sanatoria are administered by the National Sanitarium Association. The Association is not directly concerned with the purchase of the large volume of special treatment drugs used in the sanatoria. These are supplied through the Ontario Department of Health by federal health grants; and the comparatively small quantities of other drugs used are purchased and accounted for in the usual manner.

Other Public Institutions

The Connaught Medical Research Laboratories
School of Medicine, University of Toronto
Hydro Electric Power Commission of Ontario
Ontario Hospital Services Commission
School for the Blind
School for the Deaf

A number of these institutions had their own dispensaries, some had only a drug room and all had only a very limited supply of drugs mostly for an emergency type of situation caused by an accident.

In all cases, the personnel concerned appeared to be price conscious and were attempting to administer their drug expenditures in the most economical manner.

The Workmen's Compensation Board does not maintain supplies of drugs with which to fill the needs of injured workmen. Such drugs are obtained by the individual from his personal physician or from his local pharmacy. Payment for drugs is at the retail rate and payment is made (1) direct to the physicians who dispense drugs; (2) direct to pharmacies who fill prescriptions; (3) direct to workmen paying for a prescription. In every case, proof of entitlement must be furnished to the Board.

A limited quantity of drugs is carried in the pharmacy of the Board's hospital and rehabilitation centre at Downsview. These drugs, however, are for routine care only and the overall cost is not sufficient to warrant the employment of a full-time pharmacist. As this unit is in the category of a very small general hospital as far as drugs are concerned, it is not economically sound for the Board to engage the services of a full-time pharmacist. An arrangement has been made to utilize the services of a pharmacist of a local drugstore to compound the prescriptions on the basis of the retail price less a discount of 25%.

With the exception of the provincial Department of Health and the Workmen's Compensation Board, expenditures for drugs could not be considered as forming a very significant part of the cost of operations, and it has been submitted in evidence that recognized accounting and administrative procedures are strictly observed with regard to procurement, distribution, storage, inventory and accounting control.

In summing up, drug purchases are determined by the physicians' requests and prescribing customs and the drugs are then obtained from those suppliers whom the institutions have come to recognize as reliable. Quotations are obtained where applicable and, where an institution has an established list of drugs and suppliers, the orders are placed accordingly. As is the case in small hospitals, drugs are obtained from a local retail pharmacy when the volume of drugs does not warrant the operation of a pharmacy, and a 25% discount is usually extended in this event. Otherwise, drugs are procured direct from the manufacturer or from a wholesaler and the normal discount of 40% from list is allowed.

Federal and provincial sales taxes are not applicable.

PART VII

GENERAL CONCLUSIONS

In assuming the role assigned to it, the Committee recognized at the outset the formidable and critical nature of its task. Besides the inherent complexities of the pharmaceutical industry (the unique character and intricate structure of the industry; i.e. parent companies in the U.S. and other countries), there were technical problems and constitutional barriers which limited the Committee's capacity to explore the full scope of the relationships existing and the constituent factors involved.

The three characteristics which tend to make the prescription drug industry unusual and different from the patterns associated with other industries are:

1. The first and probably dominant respect in which the industry differs is the vital bearing it has on the health and well-being of the community: it is literally concerned with matters of life and death. Few industries are more essential to society and few have such heavy responsibilities implicit in their conduct of business; the safety of the public. At the same time, any drug product, if improperly used, can be dangerous or have harmful effects and, although controls and legislation are in effect, all the dangers inherent in drug therapy cannot be avoided.
2. Another facet not present in any other industry is the "captive" role of the consumer. The person who makes the decision to buy is not the person who pays. Hence the normal consumer choice does not operate. The physician who is responsible for the health and welfare of his patient is, naturally, primarily concerned with the efficacy and safety of the product he prescribes rather than the price. Usually, due to ease of identification and various influences discussed elsewhere in this report (promotion, multiplicity of drugs, difficulties of keeping abreast of new developments), the physician prescribes a brand name product and the patient, or consumer, must purchase the stipulated brand. He cannot, as he normally would with other commodities, exercise a choice as to competing brands or products. As a result, price tends to

be less of a factor in the choice of prescription drugs than would be the case in normal market practice.

3. The third aspect which distinguishes the prescription drug industry is the absence of the ordinary economic element of supply and demand: a reduction in price does not, as in other industries, mean an increase in sales volume. The effect of this, therefore, is that price is likely to be less of a factor in the competitive process. That there is an area of price competition, however, is indicated in the production of generic name products at lower prices by a number of manufacturing firms.

However significant these factors may be in relation to cost, the price of prescription drugs, within the period of this Committee's duration, has declined. There has been a general levelling off in price due, partially, to the fact that there have been no recent major breakthroughs in the prescription drug field and, to some extent, as a result of the public exposure and glare of publicity in the wake of numerous investigations of the industry in various countries. Likewise, the development of manufacturing firms offering generic name products at lower prices has had a degree of influence on the price of drugs.

There is, nevertheless, a segment of the population whose ability to pay is a determining factor in the cost of goods. This group of individuals, because of chronic illness or depressed incomes, find it difficult to pay for commodities and necessities; and the price of drugs, as well as other commodities, is high to them regardless of what the cost may be.

The consequence of research expenditures as a justification in the cost of prescription drugs has, in our estimation, been somewhat overstated. Not all firms undertake to do research and, in Canada, research is largely confined to two or three of the major manufacturing firms, institutions like Connaught and universities. Thus, a ratio is difficult to determine but the average spent on research, according to the report prepared by Mr. A. J. Little and attached as Appendix D (Schedule 3), is only 3.8%.

The firms conducting research programmes alleged that research is vital in order to enable them to compete with other firms, and such research programmes are ostensibly costly. There are elements of risk involved in research since not all research efforts are fruitful and frequently a better drug may be produced by another firm; but the costs incurred are, of course, reflected in the price of the products.

Promotion, on the other hand, has a special significance in relation to the cost of prescription drugs, particularly when it is considered that such promotion is limited to a relatively small proportion of the population; i.e. physicians and pharmacists.

Manufacturers indicated that elaborate promotional campaigns were essential although admittedly costly and this is demonstrated by the fact that

29.2% (Schedule 3, Appendix D) on the average was expended for this purpose in Canada. According to the evidence, some of this advertising is wasteful, uneconomic and undesirable and it is felt that manufacturers could undertake a more restrictive form of promotion.

With regard to the role of profits in the overall situation, the percentages reported for Canadian pharmaceutical manufacturers are comparable in relation to other Canadian industries, but a comparison with U.S. parent companies and other U.S. industries indicated a wide contrast. Since the majority of Canadian drug firms are subsidiaries of foreign companies (mainly U.S.), a number of the drug industries with profits shown both as a per cent of sales and invested capital for the year 1961 (compiled from the directory of industries published annually by *Fortune* Magazine) are listed below:

	Profit as Percent of	
	Sales	*Invested Capital*
Abbott Laboratories	9.8	12.4
American Cyanamid (Lederle Laboratories)	8.1	10.7
American Home Products (Ayerst, McKenna & Harrison) (John Wyeth)	10.9	29.8
Bristol-Myers	7.3	15.6
Dow Chemical (Allied Laboratories)	10.6	14.1
Johnson & Johnson (Ortho Pharmaceutical)	5.2	9.8
Eli Lilly & Co.	10.5	10.2
Mead Johnson	12.0	28.1
Merck & Co.	12.8	14.8
Miles Laboratories	5.1	14.2
Olin Mathieson Chemical (E. R. Squibb)	5.0	8.7
Parke, Davis & Co.	15.2	20.3
Chas. Pfizer & Co.	9.7	15.4
Richardson-Merrell	10.9	14.9
Schering Corp.	11.9	14.4
Smith, Kline & French Laboratories	16.6	29.4
Sterling Drug	10.2	22.0
Upjohn Co.	14.3	16.5
Warner-Lambert Pharmaceutical	8.7	19.8

(It will be noted some of the firms: e.g., American Cyanamid, American Home Products, Dow Chemicals, Olin Mathieson, etc., have interests outside the pharmaceutical field. The subsidiaries or drug divisions which they represent are shown in brackets but the profit figures are, of course, based on the overall operation.)

Reasonableness of Cost of Drugs

The Committee was directed by its terms of reference to enquire into "the cost of drugs and pharmaceutical preparations of all kinds used for the treatment of patients in public general and mental hospitals and sanatoria in Ontario ... and in particular as to whether costs are reasonable, having regard to costs of production and the costs charged to the general public".

Some consideration should perhaps be given to the use of the word "reasonable" which is a flexible term and cannot be clearly defined in relation to the cost incurred by the purchaser or consumer of a product. Differences in costs in the areas mentioned in the terms of reference and the reasons for such differences have been analyzed, however, and it is generally indicated that the costs are reasonable.

A study or enquiry into the cost of drugs necessitates a consideration of the component items that constitute and influence the cost of a drug. The items that determine the final cost of a drug can be considered, generally, in two main parts: (a) material items which include the ingredients of the drugs, the container, the wrapper, the label, etc., and (b) the service items which include services performed on three levels of drug production: at the manufacturing level these include quality control, research, promotion, labour, etc.: at the wholesaler level these include storage, delivery, packaging, etc.: at the retail level these include inventory, delivery, rent, professional dispensing fee, etc. In some instances, a number of these factors may be totally absent, (i.e. no expenditure for research, packaging or delivery) in the purchase price of a drug, whereas in some cases the amount of the expenditures only will vary.

The cost of drugs was considered in three parts as follows:

A—Costs to the public

B—Costs to institutions

C—Price Variations:

(1) Comparing the cost of the raw material to the selling price of the delivered prescription at retail level.

(2) Comparing the price of prescribed drugs purchased from different types of pharmacies:

  (a) Two different retail pharmacies.

  (b) Different types of retail outlets: i.e., discount houses, mail-order house, etc.

  (c) An institution and a retail pharmacy.

(3) Comparing the price variation between manufacturers who market similar or equivalent preparations; sometimes referred to as a variation between a "trade name" and a "generic name" drug.

A—Costs to the Public

In Volume 7, Page 509 of the evidence of this Committee, a chart illustrates what the pharmacist did with the consumer's dollar. The chart covers nine years but 1959 is a fair average and as informative as any and is reproduced below:

Paid to wholesaler and manufacturers		66.8¢
Proprietor or manager salary	8.4¢	
Employees' wages	9.6	18.0
Rent	2.5¢	
Advertising	1.1	
Delivery	.8	
Depreciation	1.2	
Heat, light and power	.7	
Taxes	.3	
Insurance	.4	
Interest on borrowed money	.4	
Repairs	.4	
Telephone	.3	
Bad debts	.1	
Miscellaneous expenses	1.8	10.0
Net profit to owner		5.2
		100.0¢

Manufacturers normally market their drugs in accordance with a list price which they have compiled. When the manufacturer sells direct to the retailer, it is usually at the list price less 40%. When the manufacturer sells to a wholesaler, it is usually at a list price less 40% less an additional 16⅔%.

In considering the place of the wholesaler in a composite price study of the retailer, wholesaler and manufacturer, using the D.B.S. figures for the year 1957, it was reported for all Canadian drug wholesalers in that year that the gross profit was 11.79%; total operating expenses were 9.78% and net profit 2.01% before income tax deduction. Not all drugs, however, are distributed through a wholesaler.

The wholesaler's expenses in the main are accounted for by administrative and general items, warehouse and delivery items and profit. Since the wholesaler receives 60% of the retail sales dollar and the expense of using a wholesaler would be approximately 12% (11.79%), or approximately 7¢ of the retail sales dollar and, since many drug manufacturers do not make use of the services of a wholesaler, a fair estimate of the portion of the total consumer's sales dollar that would be attributable to the wholesaler would be small

(possibly 3¢ or 4¢). Consequently, in considering the overall picture of the consumer's dollar, the wholesaler may be disregarded and the manufacturer's and pharmacist's figures may be amalgamated to see where the consumer's dollar goes.

The manufacturer's sales dollar according to the compilation prepared by Mr. A. J. Little, attached as Appendix D, shows in Schedule 1 and Schedule 3 the sales and expenses in two different patterns; one by classification and one by function.

These two schedules are reproduced on pages 44 and 45 and it should be noted that they are re-arranged slightly to agree exactly in total and the various expenses are expressed as percentages of the sales dollar as shown in the compilation. In the last column of these schedules, the sales and expenses in total are shrunk to 66.8¢ to correspond with the chart on page 43 as the amount paid to the manufacturer. By combining the figures in the two schedules on pages 44 and 45 with the figures in the chart on page 43, a hypothetical picture of the retail pharmacist's sales dollar is produced as shown on page 45.

It is conceivable that some items included in the cost may be capable of reduction and that some items may even be eliminated since each item in itself does not represent a large portion of the whole; elimination or reduction of only one item would not be significant. In addition, it is not known whether the public want some of these items eliminated or reduced; e.g., telephone order, 24-hour service, delivery, etc.

From the foregoing, it appears that the basic cost of material is not too significant as it comprises only a small portion of the ultimate dollar paid by the consumer.

Schedule I revised expressing Expenses as a percentage of net Sales of $126,367,000 to agree with Schedule III

Net Sales	$126,367,000	100%		
Wages and salaries	31,183,000	24.7	16.5¢	
Employee benefits	2,396,000	1.9	1.3	
Materials	36,765,000	29.2	19.5	
Excise and sales tax	8,021,000	6.3	4.2	
Other expense	33,613,000	26.5	17.7	To agree with amount paid to manufacturer see page 45
Other income (credit)	*1,836,000*	*1.4*	*.9*	
Depreciation	2,157,000	1.7	1.1	
Taxes on income	7,063,000	5.6	3.7	
Dividends	6,404,000	5.5	3.7	
Retained in business	601,000			
	$126,367,000	100.0	66.8¢	

Schedule III—Functional

Net Sales	$126,367,000	100%		
Cost of goods	$ 53,440,000	42.3	28.2¢	
Excise and sales tax	8,021,000	6.3	4.2	
Research	4,245,000	3.4	2.3	
Selling and advertising	33,769,000	26.7	17.8	
Administration	14,152,000	11.2	7.5	Same figures reclassified
Other income (credit)	*1,321,000*	*1.0*	*.6*	
Income taxes	7,063,000	5.6	3.7	
Net profit	6,998,000	5.5	3.7	
	$126,367,000	100.0	66.8¢	

Combination of Manufacturer's and Retailer's figures to give breakdown of retailer's $1.00

Customer's $1.00 paid to druggist		
Proprietor's or manager's salary, employees' wages, net profit to owner	23.2¢	33.2¢ paid to retailer
Druggist's expenses	10.0¢	
Profit	3.7¢	
Income tax	3.7¢	
Net administrative	6.9¢	
Selling and advertising	17.8¢	66.8¢ paid to manufacturer
Research	2.3¢	
Excise and sales taxes	4.2¢	
Cost of goods, labour overhead, depreciation, packaging and quality control	28.2¢	

B—Cost to public general hospitals, mental hospitals and sanatoria

The hospitals, particularly in the case of a sizeable one, can certainly purchase drugs at a considerably lower price than can a retail pharmacist. Since hospitals, as a rule, purchase drugs exempt from the 11% federal sales tax, this item alone can account for a 10% differential in the price. When the additional advantages of quantity discounts and competitive bidding are taken into account, it is obvious that hospitals can purchase more favourably.

The substantial benefits which can accrue to hospitals due to quantity discounts are exemplified on page 46:

	Units (as shown in brackets)	*100*	*500*	*1,000*	*5,000*	*Over 100,000*
LARGACTIL						
List price	$2.10 (20)	8.90	38.30	68.00		
Price to Ontario hospitals				14.00		
Price of generic name drug (as purchased in quantities over 100,000 by Ontario hospitals).						2.40M
SPARINE						
List price	8.00 (50)		65.00			
Price to Ontario hospitals	4.15 (50)		33.68			34.00M
Price of generic name drug						2.75M
MILTOWN						
List price	5.00 (50)		43.75			
Price to Ontario hospitals	2.70 (50)		23.63			20.70M
Price of generic name drug						2.85M
AMYTAL SODIUM CAPSULES						
List price		6.30	29.05		55.10M	
Price to Ontario hospitals		3.33	15.38		29.16M	20.27M (in quantities of 25,000)
Price of generic name drug						9.00M (in quantities of 25,000)

Although the majority of public general hospitals operate under the Ontario Hospital Services Commission, the fundamental autonomy of each hospital is observed and, for the most part, the hospitals operate as independent units. Consequently, purchasing practices and capabilities vary from hospital to hospital. Some hospitals, therefore, because of the volume used and adoption of formularies, purchase their drugs at a more advantageous price.

The Ontario Department of Health which purchases the drugs used in its mental institutions and sanatoria is the largest single purchaser of drugs in Ontario. As a result, the Department conducts a testing programme in conjunction with the Attorney-General's laboratory which permits it to purchase

drugs from any supplier at the most advantageous price without jeopardizing quality.

It may be concluded that the prices paid for drugs in mental hospitals and sanatoria are reasonable, at least in the sense that they are lower on the average than those paid by other purchasers.

C—Price Variations

The Committee felt that public complaints about differences in drug prices required attention and these differences were considered under the three headings which follow:

1. *Comparing the cost of the raw material to the selling price of the delivered prescription at retail level.*

The cost of the raw materials, as explained previously, forms a small part of the final cost of the prescribed drug. The major portion of the cost is composed of processing, distributing, service and overhead cost items. Thus, if a comparison is made between the raw material costs to the manufacturer and the final selling price of the prescribed drug (using the figures in the charts on page 44 and 45, it would appear as an increase of almost 500%. The difference in cost, viewed on this basis, seems inordinately high until consideration is given to the expenses which contribute to the increase. These expense items include numerous elements such as processing, packaging, promoting and distributing the drugs, without which the consumer could not obtain the product when needed.

2. *Comparing the price of prescribed drugs purchased from different types of pharmacies.*

(a) *Two different retail pharmacies*

Considerable variation occurs in the prices charged by individual retail outlets. These may be accounted for by such factors as different pricing methods and different cost and competitive situations in which individual pharmacies find themselves. These price variations may reflect location, size, salaries, rent and other cost factors experienced by a retail pharmacist.

Evidence before the Committee has shown that there is a generally accepted method of pricing prescriptions which has been developed by the Ontario College of Pharmacy in recent years. Taken into consideration in this pricing method are drug cost, container cost, overhead costs and professional dispensing fee. It is obvious, then, that there will be variations in price whenever a pharmacist departs from this pricing formula. A number of justifications, economic and otherwise, can be cited in defence of the absence of completely uniform pricing. The Committee would be

more disturbed if there were complete uniformity in the pricing of prescription drugs at the retail level since this would indicate a combination adversely affecting the consumer.

The problem of pricing for pharmacists is not unlike that which faces all professional people, including doctors and lawyers. In this case, the question is whether charges should be based on material costs plus trading markup plus percentage markup, or whether the products should be sold at cost with a somewhat larger dispensing fee compensating the pharmacist for his professional capabilities together with responsibility incurred.

(b) *Different types of retail outlets; i.e., discount house, mail-order house, etc.*

Price variations occur due to different methods of operation of different types of retail pharmacies. Discount houses and other large volume organizations are now appearing, at least in large centres, and offer lower prices to the consumer who places greater stress on price than on the convenience and service which the regular pharmacy provides. One example of a mail-order pharmacy operation came to the attention of the Committee and information received in this regard would indicate that this type of operation can possibly effect savings for chronic patients who have to purchase large quantities of drugs over long periods of time.

The price variations are accounted for by the elimination and reduction of some of the service cost factors which contribute to the selling price of drugs: including inventory expense, delivery expense, store expense and volume of merchandise handled. The price difference between these different types of pharmacies has been estimated at about 15% and is attributable to the variation in services rendered.

(c) *An institution and a retail pharmacy*

The price variation in this case results from the institution's quantity purchasing power which results in lower initial costs; from the elimination of certain services offered by the retail pharmacist and from the fact that certain actual costs of distributing are absorbed by the institution in general overhead accounts with no attempt being made to recover this portion of cost from the drug purchaser.

The retail pharmacist is adding a specialized service, quantities are often small and service expense is often a more important factor in the final price of the drug than are the material costs themselves.

It can be concluded, therefore, that there is justification for the difference in prices charged by hospitals and institutions and retail pharmacists.

3. *Comparing the price variation between manufacturers who market similar or equivalent preparations; sometimes referred to as a variation between a "trade name" and a "generic name" drug.*

Since the service items which are included in the price of a prescription are present whether the product is "generic" or "trade" name, it is apparent that the difference in price of the equivalent preparations is related to the cost of the drug almost wholly at the manufacturing level. The difference originates at the manufacturing level but any difference that exists expands through the various levels and is amplified because of the percentage method.

The information received indicates that the price variation is largely due to the following factors:

(a) Some manufacturers confine their market mainly to institutions in bulk quantities and do not sell to any extent to the small retailer and, consequently, do not incur heavy promotion and advertising costs.

(b) Not all drugs lend themselves to sale by generic name due to compound preparations which are a combination of several drugs and do not usually have a generic name. This limits the number of manufacturers who market the product and restricts competition.

(c) Most of the raw materials used in the production of drugs are imported but some manufacturers import their raw materials at lower costs.

(d) Some manufacturers imitate an established product and, consequently, their expenditure for research and development is minimal.

(e) Some manufacturers confine their production to well-known and established products.

It is felt that, in time, competition between generic drugs and trade name drugs and the recovery by manufacturers of research, development and promotion costs will tend to equalize prices and that price variations and differences between the trade name drug and an equivalent product under a generic name will become less variable.

PART VIII

RECOMMENDATIONS AND PROPOSALS

1. That all manufacturers of drugs be licensed.
2. That a generic name be selected and made available for every new drug before it is marketed, and that selection of the name be by an advisory board or committee appointed by the Food and Drug Directorate.
3. That the 11% federal Sales Tax on prescription drugs be removed.
4. That a better method of disseminating information between manufacturers, pharmacists and the medical profession, with special emphasis on a reference to price, be devised to enable the medical practitioner to prescribe the most economical drug of good quality.
5. That more co-operation between manufacturers and other research bodies be encouraged, with a freer exchange of research information.
6. That import tariffs imposed on scientific equipment used in the manufacture and research of drugs be removed.
7. That increased co-operation between manufacturers, pharmacists and the medical profession be stimulated with a view to reducing expensive advertising and sales promotion programmes.
8. That a more rational standardization of packaging be considered. Pills to be packaged in standard quantities and liquids in standard size bottles to permit the medical practitioner to prescribe according to the size of the package available and thus reduce the cost to the patient and any loss to the pharmacist which may ensue due to splitting packages.
9. That legislation be introduced to permit a pharmacy, when a licensed pharmacist is not in attendance, to close the prescription department without closing the store.
10. That legislation be introduced to include in the prescription list many of the dangerous drugs now sold over the counter.
11. That a system of central drug purchasing for all Ontario institutions be established.

12. That all hospitals be encouraged to develop a formulary system.
13. Whereby chronic and needy patients who use large quantities of expensive drugs can obtain them more readily and at lower cost.
14. That retail druggists be encouraged to establish and develop a central mail order outlet whereby chronic and needy patients who use large quantities of expensive drugs can obtain them more readily and at a lower cost, having in mind that such an outlet would be of convenience to the patient and prescription costs would be based on bulk purchasing.

NOTE: Mr. Bryden has signed the report since he agrees with all the recommendations contained in it, but he does not believe it goes far enough in certain respects. In particular, he thinks that the use of brand names is the most important single factor making for high promotion costs and proliferation of products, and he would recommend that federal law be amended to make it impossible to register brand names for prescription drugs.

PART IX

APPENDICES

LIST OF APPEARANCES

Evidence

Evidence was received from the following individuals, listed in order of their appearance, on behalf of the departments and organizations they represented:

- Hon. M. B. Dymond, M.D., Minister, Ontario Department of Health.
- Dean F. N. Hughes, Faculty of Pharmacy, University of Toronto.
- Dr. Donald R. Gunn, Director of Clinical Research, Ontario Hospital, New Toronto.
- Dr. W. G. Brown, Deputy Minister, Ontario Department of Health.
- Mr. G. S. Tattle, Comptroller, Ontario Department of Health.
- Dr. H. Ward Smith, Director of Laboratory, Attorney-General's Laboratory, Toronto.
- Dr. Stefan Grzybowski, Medical Specialist, Ontario Department of Health.
- Dr. F. S. Brien, Chairman, Pharmacy Committee, Ontario Medical Association.
- Dr. R. W. Ian Urquhart, M.A., M.D., LL.D., Chairman, Ontario Hospital Services Commission.
- Mr. A. L. Fleming, Solicitor, Ontario Hospital Association.
- Mr. S. W. Martin, Executive Secretary-Treasurer, Ontario Hospital Association.
- Mr. L. E. Ludlow, Director, Homes for the Aged Branch, Ontario Department of Public Welfare.
- Dr. C. Keith Stuart, Special Geriatrics Consultant, Ontario Department of Public Welfare.
- Mr. J. A. Graham, Deputy Minister, Ontario Department of Reform Institutions.
- Mr. W. W. Cunningham, Purchasing Officer, Ontario Department of Reform Institutions.
- Dr. Gordon A. Mellow, Medical Officer, Guelph Reformatory.
- Dr. E. C. Steele, Commissioner, Workmen's Compensation Board.
- Mr. D. Palmer, Medical Aid Officer, Workmen's Compensation Board.

- Mr. Howard R. Beattie, Superintendent Special Services, Ontario Department of Education.
- Dr. D. K. Grant, Director of Medical Services, Hydro-Electric Power Commission of Ontario.
- Mr. J. C. Turnbull, General Manager, Canadian Pharmaceutical Association.
- Mr. Harold Smith, Secretary-Treasurer and Business Manager, Ontario Retail Pharmacists' Association.
- Dr. E. A. White, President-Elect, Ontario Dental Association.
- Prof. Horace J. Fuller, Professor of Pharmacy Administration, Faculty of Pharmacy, University of Toronto.
- Dr. R. Ian Macdonald, Director of Post-Graduate Studies, School of Medicine, University of Toronto.
- Mr. Carl Wilson, President, Ontario Retail Pharmacists' Association.
- Mr. J. W. T. Michel, Commissioner of Patents, Department of the Secretary of State, Ottawa.
- Dr. C. A. Morrell, Director, Food and Drug Directorate, Department of National Health and Welfare, Ottawa.
- Dr. J. K. W. Ferguson, Director, Connaught Medical Research Laboratories, Toronto.
- Mr. Stanley N. Conder, General Manager, Canadian Pharmaceutical Manufacturers Association.
- Dr. Brian Dixon, B.A., M.Com., Ph.D., Queen's University, Kingston, (Economic Consultant, Canadian Pharmaceutical Manufacturers Association).
- Mr. F. R. Hume, Q.C., Counsel, Canadian Pharmaceutical Manufacturers Association.
- Mr. Jules R. Gilbert, President, Jules R. Gilbert Limited, Toronto.
- Mr. P. Moisley, Registrar-Treasurer, Ontario College of Pharmacy.
- Mr. T. E. E. Greenfield, Chief Inspector, Ontario College of Pharmacy.
- Mr. W. A. Wilkinson, Pharmacist, Windsor, Ontario — also President, Ontario Retail Pharmacists' Association and President, Prescription Services Inc.
- Mr. W. K. Donaldson, Pharmacist, Renfrew, Ontario.
- Mr. S. G. Turner, Pharmacist, London, Ontario.
- Mr. W. Isaacson, Lawrence Park Pharmacy, Toronto.

- Mr. G. W. Fairley, Field Extension Officer, Ontario College of Pharmacy, Toronto.
- Mr. Kell Antoft, President, Nordic Biochemicals Ltd., Montreal.
- Mr. C. A. Sage, Associate Director, Hospital for Sick Children, Toronto.
- Mr. Peter M. Breel, Administrator, Alexandra Hospital, Ingersoll.
- Mr. Stanley J. Johnston, Administrator, Leamington District Memorial Hospital, Leamington.
- Mr. Simon Ruth, Administrator, Baycrest Hospital, Toronto.
- Mr. George E. Miller, Purchasing Agent, National Sanitarium Association, Toronto.
- Dr. Fred B. Fallis, Avenue Road and Wilson, Toronto.
- Dr. Maurice F. Clarkson, Peterborough Clinic, Peterborough.
- Dr. Bruce Halliday, Tavistock, Ontario.
- Dr. Gordon A. Judge, Burford, Ontario.
- Dr. Wesley J. Dunn, Registrar-Secretary, Royal College of Dental Surgeons of Ontario.
- Dr. John Methven, Dentist and member of staff of University of Toronto.
- Dr. Clifford Reynolds, Dentist and member of staff of University of Toronto.
- Dr. H. E. Appleyard, Director, Hamilton General Hospital, Hamilton.
- Mr. Peter Smith, Administrator, Woodstock General Hospital, Woodstock.
- Mr. James B. Keating, Pharmacist, Guelph, Ontario.
- Mr. William Solomon, Islington Royal York Pharmacy, Islington.
- Mr. John Mackay, Superintendent, Peterborough Civic Hospital, Peterborough.
- Mr. Murray Rubin, Vanguard Pharmacy, Toronto.
- Mr. Murray Kerzner, Vanguard Pharmacy, Toronto.
- Mr. E. A. Jeffreys, Director, Honest Ed's Pharmacy Ltd., Toronto.
- Mr. N. H. Englander, President and Manager, Honest Ed's Pharmacy Ltd., Toronto.
- Mr. A. J. Little, C.A., Special Report, Canadian Pharmaceutical Manufacturers Association.
- Mr. O. J. Phillips, Vice-President and Managing Director, E. R. Squibb and Sons of Canada Limited, Montreal.

- Mr. W. A. Leslie, Chairman, Ayerst, McKenna & Harrison Ltd., Montreal.
- Mr. H. J. Brown, President and General Manager, Burroughs Wellcome & Co. (Canada) Ltd., Montreal.
- Mr. Elliot S. Frosst, Chairman, Charles E. Frosst & Co., Montreal.
- Mr. E. G. Dentay, President, Fine Chemicals of Canada Ltd., Toronto.
- Mr. Crawford Gould, President, Drug Trading Company Ltd.
- Mr. D. E. Wright, Manager, National Drug and Chemical Company of Canada Ltd.
- Mr. K. C. Legge, Manager, Toronto Branch, Drug Trading Co. Ltd.

HOSPITAL QUESTIONNAIRE

Name of Hospital.....

Address.....

When founded..... No. of beds.....

Classification under O.H.S.C..... Bed Occupancy %.....

For purposes of this Questionnaire, the word "drugs" is to be interpreted as including any medication on a doctor's prescription or order. The word "drugs" does not include routine ward supplies and such items as laboratory supplies, x-ray supplies, dental supplies, surgical supplies, bandages, chemicals as such, and such similar items which are not within the interpretation of the word "drugs" as intended in this Questionnaire.

Similarly, "prescriptions" is to be interpreted as meaning an authorized and signed order of the attending physician for "drugs" as defined above, and does not include orders for routine ward supplies, etc.

1. Does your hospital treat patients generally, or is the treatment and/or facilities directed to a specific ailment?.....
2. Do you operate a pharmacy.....
3. If not, do you have a drug room or dispensary.....
4. What individual has the designated responsibility for supervision of the pharmacy:
   1. Staff pharmacist (if applicable).....
   2. Member of the medical staff.....
   3. Retail pharmacist.....
   4. Other (please specify).....
5. How many pharmacists do you have on staff.....Full time.....
   Part time.....
   Occasional.....
   None.....
6. What are the duties of, and responsibilities, of your pharmacists.....
   .....
7. Does your pharmacy operate on a set of rules covering purchasing procedures, or do you have a list of approved drugs to be carried in stock.....
   .....

8. Do you have a formulary: Yes.....No.....
If so, when was it introduced.....

9. Do you manufacture or prepare any drugs, including solutions, ointments, etc.
.....

10. If so, what items do you manufacture or prepare.....
.....

11. Do you have a Pharmacy Committee: Yes..... No.....

12. Is your Medical Staff active on this Committee: Yes..... No.....

13. How often does such a Committee meet.....

14. Does the Pharmacy Committee review drug inventory.....

15. Does the Pharmacy Committee advise as to disposal of drugs for write-off or return to supplier.....

16. Are staff physicians familiar with dispensary stocks.....

17. Are prescriptions by physicians to pharmacy by trade or generic name.....
.....

18. Do physicians enquire as to availability of a trade name drug by its generic name.....

19. Do you have a policy of substitution, and who has authority for substituting
.....

20. Are all prescriptions ordered by an attending physician entered in an Order Book.....

21. If prescriptions are entered in an Order Book, are they supported by a signed prescription.....

22. Are all prescriptions recorded.....

23. How many prescriptions were recorded for the year 1959.....
to July 1st, 1960.....

24. In computing or ascertaining the number of prescriptions filled by your pharmacy, are requisitions from a ward or floor to replenish ward or floor stocks treated as a single order or prescription.....
.....

25. Is there a period prescribing limit for all medications and, if treatment is carried beyond this time, must the prescription be renewed by the doctor.....

.....

26. What is the period prescribing limit.....

27. Does this prescribing limit apply to all drugs.....

28. Is a priced list of drugs as carried by the dispensary consulted by doctors.....

.....

29. Does such list indicate both trade and generic names and prices.....

.....

30. Are doctors informed as to the cost of drugs and procedures provided to a patient.....

31. What is the hospital routine for return of unused prescription drugs from wards.....

32. Is cost of unused prescription drugs credited to a patient's account.....

.....

33. Are unused drugs returned to pharmacy noted on patient's prescription.....

.....

34. Do you maintain ward or floor stocks of drugs.....

35. Who is responsible for selection of drugs for purchase.....

36. For what period are drugs purchased: (monthly, as required, etc.).....

.....

37. Are drugs purchased on a competitive basis.....

38. Is price comparison made on purchase of drugs as between trade or generic name.....

39. Have any complaints arisen as to drugs purchased by generic as against trade name.....

40. If so, what is the nature of the complaints.....

.....

41. % of purchases for the year 1959 from: Manufacturers.....

Distributors.....

Retailers.....

42. Please indicate, in brief point form, your general drug purchasing procedure, in sequence, including the method by which drug prices are obtained and orders for drugs are placed:

43. How often are drug stocks checked.....

44. With respect to drugs received from a supplier, do you maintain records indicating the name of the supplier, cost, quantity, date of delivery, and such pertinent information pertaining to the purchase.....

.....

45. What % of drugs were purchased in 1959 on the basis of tender.....

46. What discounts, if any, from list prices are customarily received.....

47. What credit arrangements, if any, are in effect with suppliers in relation to the return of obsolete, deteriorated and/or expired drugs.....

.....

48. What was your total expenditure on drugs for the year 1959.....
to July 1st, 1960.....

49. If possible to determine with reasonable accuracy, what proportion of these expenditures in 1959 were for: "generic" name drugs.....%
"brand or trade" name drugs.....%

50. What was the ratio of drug costs to total hospital operating expenses for the year 1959.....

51. Have hospital drug costs increased or decreased since inception of Ontario Hospital Services Commission:
(a) Overall.....
(b) For certain type drugs (please indicate).....
(c) Per patient day.....

52. How are drug costs determined for inclusion in your annual returns to the Ontario Hospital Services Commission.....

.....

53. What is the basis of charge for prescriptions for private patients not covered by O.H.S.C.: (a) Ward patients .....
(b) Indigent patients .....

54. Are drugs sold to hospital employees and physicians .....
If so, at what discount from retail price .....

55. Are drugs sold to in-patients (uninsured) .....
If so, at what discount from retail price .....

56. Are drugs sold to out-patients .....
If so, at what discount from retail price .....

57. Are deteriorated or obsolete drugs inventoried for write-off .....

58. What was the cost of deteriorated drugs written off or included in the cost of drugs for the year 1959 .....

59. What was the cost of obsolete drugs written off or included in the cost of drugs for the year 1959 .....

60. What was the original cost of drugs returned to suppliers for credit or adjustment during the year 1959 .....

61. Please list 25 of the drugs most commonly used in your hospital and their purchase price (not necessarily in order of frequency of use):

Name by Which Purchased	*Unit Price Paid*				*Overall Quantity Involved in Unit Price*
	1959		*to July 1/60*		
	$	per	$	per	

62. What dollar proportion would the above group be of the total drug inventory at the present time .....

63. Does the hospital test any of the drugs purchased before they are put in stock .....

64. Are hospital facilities used for clinical testing of drugs .....

65. Is clinical testing of drugs for pharmaceutical manufacturers undertaken by the hospital or is it done by hospital physicians, under an arrangement with the drug supplier.....

66. What drugs were clinically tested in or at your hospital during the year 1959, and to July 1st, 1960, and for what pharmaceutical companies.....
.....
.....

67. What remuneration does the hospital receive for use of the services supplied for such testing.....

68. Is any price concession granted to the hospital on drugs clinically tested by the hospital for a manufacturer.....

69. Has full information as to the results of such clinical testing been made available to the hospital.....

70. Is this information readily available to the hospital medical staff.....

71. What proportion of the drug expenditure, as in question 48, is applicable to out-patient clinics: 1959.....%
to July 1st, 1960.....%

72. Would the distribution, in the clinics as between generic name and brand name drugs, be approximately the same as in question 49.
Yes..... No..... Other.....

73. What is your usual method of charging for drugs in OP Clinics:
(1) Discount from list price Amount.....
(2) Markup on purchase price Amount.....
(3) Other .....

74. What was the net difference between revenue received, as in question 73, and expenditure, as in question 71: 1959 $.....
To July 1st, 1960 $.....

75. Are drugs sold to private out-patients: Yes..... No.....
If "yes", what is the method of charging:
Retail..... Discount, if any..... Amount.....

76. What is the volume of such sales in relation to the drug usage in the hospital as a whole.....%

SURVEY OF INFORMATION OBTAINED FROM HOSPITAL QUESTIONNAIRE

CLASSIFICATION OF HOSPITALS UNDER O.H.S.C. REGULATIONS

Group "A"—General Hospitals affiliated with medical schools.
"B"—General Hospitals with 100 or more beds.
"C"—General Hospitals with less than 100 beds.

	Group "A"	*"B"*	*"C"*
Number of hospitals	17	62	83
Number of beds	10,628	13,075	4,499
Number of bassinettes	325	542	93
% Bed occupancy (average)	93.4%	75.1%	84.0%

Total of 162 Hospitals; 29,162 Beds and Bassinettes.

1. Does your hospital treat patients generally, or is the treatment and/or facilities directed to a specific ailment?

	Group "A"	*"B"*	*"C"*
General	16	60	81
Specific	1*	2†	2‡

* Cancer
† Obstetrics and Gynecological
‡ Neurological and Orthopedic

2. Do you have a pharmacy?

3. If not, do you have a drug room or dispensary?

	Group "A"	*"B"*	*"C"*
Number of pharmacies	17	51	8
Number of drug rooms or dispensaries		10	70
No pharmacy or drug room			4
Supplied by retail pharmacy		1	1

4. What individual has the designated responsibility for supervision of the pharmacy?

	Group "A"	"B"	"C"
Staff pharmacist	17	51	10
Member of medical staff		1	2
Retail pharmacist		1	2
Other (please specify)		9	69

The 9 "other" individuals responsible for supervision of pharmacies or drug rooms in the Group "B" hospitals included Director of Nursing, Hospital Superintendent, Registered Nurse and Purchasing Agent. Group "C" hospitals delegated responsibility as follows: Director or Superintendent of Nursing—49; Registered Nurse—9; Nursing Supervisor—5; Sister superior or Nun—2; Pharmacist Non-certified—1; Matron—1; Administrator—2 (one also a qualified pharmacist).

5. How many pharmacists do you have on staff?

	Group "A"	"B"	"C"
Full time	73	73	9
Part time	11	7	4
Occasional	2	1	0
		8 hospitals	70 hospitals

6. What are the duties of, and responsibilities of your pharmacists?

Group "A" and "B"	Purchasing, Dispensing, Compounding, Teaching, Narcotic Control, also advisory duties and Committee work.
Group "C"	Mainly ordering and dispensing of drugs, and preparation of solutions, ointments, etc., in constant use.

7. Does your pharmacy operate on a set of rules covering purchasing procedures, or do you have a list of approved drugs to be carried?

	Group "A"	"B"	"C"
Purchasing procedure	4	23	8
Approved list	2	16	32
Neither	8	13	18
Regulated by doctors' demands	1	3	3
No reply	2	7	22

There would appear to be a measure of flexibility in purchasing procedure since no hard and fast rules are followed in general. Purchasing is controlled by doctors' demands and is subject to approval of Pharmacy Committee, where such exists, but the actual purchasing is normally the responsibility of the pharmacist.

8. Do you have a formulary?
If so, when was it introduced?

	Group "A"	*"B"*	*"C"*
Yes formulary	7	32	11
No formulary	5	22	60
Under preparation	5	8	7
No reply			5

Most formularies have been introduced within the past three or four years; the earliest being St. Michael's (1916) and Kitchener-Waterloo (1949).

9. Do you manufacture or prepare any drugs, including solutions, ointments, etc.?

	Group "A"	*"B"*	*"C"*
Yes manufacture	17	46	14
Do not manufacture		16	67
No reply			2

10. If so, what items do you manufacture or prepare?

Group "A" and "B" Manufacturing or preparation of drugs is carried on to some extent, but is limited to solutions, tinctures, irrigants, mouthwashes, etc.—preparations in constant use.

Group "C" Practically no manufacturing done; this is limited to the preparation of solutions and such frequently used items as ointments, lotions, etc.

11. Do you have a Pharmacy Committee?

	Group "A"	*"B"*	*"C"*
Yes	17	60	36
No		2	46

12. Is your Medical Staff active on this Committee?

Yes	17	53	30
No		9	31
No reply			22

13. How often does such a Committee meet?

Regularly (monthly, quarterly, semi-annually, etc.)	10	40	24
When necessary (usually infrequent and irregular)	7	17	10
No reply		15	49

14. Does the Pharmacy Committee review drug inventory?

Yes	1	18	25
No	16	42	15
No reply		2	43

15. Does the Pharmacy Committee advise as to disposal of drugs for write-off or return to supplier?

Yes	3	12	17
No	14	45	23
No reply		5	43

16. Are staff physicians familiar with dispensary stocks?

Yes	14	53	71
No	3	6	7
No reply		3	5

17. Are prescriptions by physicians to pharmacy by trade or generic name?

Trade	2	28	48
Both Trade and Generic	14	34	17
Generic	1*		2†
No reply			16

* Princess Margaret

† One of these is trying to adopt a 100% generic plan and is currently purchasing most of its drugs generically.

18. Do physicians enquire as to availability of a trade name drug by its generic name?

Yes	4	12	12
No	2	20	34
Sometimes	11	29	29
No reply		1	8

It would appear requests are predominantly "trade", although there are occasional "generic" requests.

19. Do you have a policy of substitution, and who has authority for substituting?

	Group "A"	*"B"*	*"C"*
Yes	10	43	43
No	6	18	35
No reply	1	1	5

There appears to be no stated policy although substitution is widely practiced, subject always to approval of doctor, pharmacy committee, medical staff or pharmacist.

20. Are all prescriptions ordered by an attending physician entered in an Order Book?

	Group "A"	*"B"*	*"C"*
Yes	10	29	40
No	7	29	33
Prescriptions sent to local drugstore			5
No reply		4	5

21. If prescriptions are entered in an Order Book, are they supported by a signed prescription?

Yes	8	25	21
No	4	25	24
No reply	5	12	36

22. Are all prescriptions recorded?

Yes	15	43	36
No	2*	18*	18*
Prescriptions filled by retail pharmacy		1	5
No reply			24

* In some cases prescriptions are recorded, but only on patients' charts.

23. How many prescriptions were recorded for the year 1959 to July 1st, 1960?

1959	1,084,530*	1,222,215†	83,369‡
To July 1st, 1960	616,415	662,556	71,862

* Group "A"—15 hospitals reporting only (in one case records were discarded after 6 months and no record of prescriptions was kept in the other instance.)

† Group "B"—42 hospitals only, as 20 failed to report any figure covering number of prescriptions.

‡ Group "C"—10 hospitals reported a figure for the year 1959; 16 hospitals reported only for the period to July 1st, 1960. The remainder failed to report any figure in this regard.

24. In computing or ascertaining the number of prescriptions filled by your pharmacy, are requisitions from a ward or floor to replenish ward or floor stocks treated as a single order or prescription?

	Group "A"	*"B"*	*"C"*
Yes	4	17	27
No	11	31	7
No reply	2	14	49

25. Is there a period prescribing limit for medications and, if treatment is carried beyond this time, must the prescription be renewed by the doctor?

	Group "A"	*"B"*	*"C"*
Yes	5	53	39
No	12	8	34
No reply		1	10

There would appear to be a general automatic stop order on narcotics, antibiotics and anticoagulants; in other instances where there is no actual ruling in existence, this is left to the doctor's discretion.

26. What is the period prescribing limit?

	2–7 days	1–7 days	2–7 days

27. Does this prescribing limit apply to all drugs?

Yes	5	7	5
No	12	48	35
No reply		7	43

28. Is a priced list of drugs as carried by the dispensary consulted by doctors?

Yes	3	7	9
No	14	53	69
No reply		12	5

29. Does such list indicate both trade and generic names and prices?

Yes	5	13	6
No	6	23	32
No reply	6	26	45

30. Are doctors informed as to the cost of drugs and procedures provided to a patient?

Yes	1	10	28
No	4	21	26
Not usually*	7	18	22
On request	5	11	3
No reply		2	4

* Unless expensive drugs required.

31. What is the hospital routine for return of unused prescription drugs from wards?

Returned to stock for re-use where possible	17	55	48
Taken home by patient*			6
Discarded*			3
No reply		7	26

* These are the instances where prescriptions were ordered for the individual patient from a local retail pharmacist.

32. Is cost of unused prescription drugs credited to a patient's account?

Yes	1	10	1*
No	13	46	52
No reply	3	6	30

* If uninsured.

33. Are unused drugs returned to pharmacy noted on patient's prescription?

	Group "A"	*"B"*	*"C"*
Yes	1	9	3
No	14	47	46
Narcotics only	1		
No reply	1	6	34

34. Do you maintain ward or floor stocks of drugs?

Yes	17	60	79
No		1	2
Emergency supplies only			2
Supplied by retail pharmacy		1	

35. Who is responsible for selection of drugs for purchase?

Pharmacist*	16	51	6
Pharmacy Committee	1	4	9
Other†		7	67
No reply			1

* In conjunction with Pharmacy Committee and Medical Staff.
† Includes Director of Nursing, Supervisor, Medical Staff, etc.

36. For what period are drugs purchased?

Monthly	5	11	16
As required	10	50	66
Other	2	1	1

Each method is supplemented by purchases at other times according to amount of drugs used, benefits to be obtained by quantity prices and other factors.

37. Are drugs purchased on a competitive basis?

Yes	12	42	47
No	5	19	32
No reply		1	4

38. Is price comparison made on purchase of drugs as between trade or generic name?

Yes	12	30	34
No	5	30	39
On occasion			1
No reply		2	9

39. Have any complaints arisen as to drugs purchased by generic as against trade name?

Yes	4	13	11
No	12	34	54
No reply	1	15	18

40. What is the nature of the complaints?

Largely inferior quality; also lack of uniformity, no replacement privilege, patient refusal, not as effective, difficulty with names, under strength, doctors' complaints re substitution and refusal to use generic drugs, etc.

41. Percentage of purchases for the year 1959 from

	Group "A"	*"B"*	*"C"*
Manufacturers (average)	83.9%	80.5%	70.1%
Distributors "	15.7%	19.7%	22.6%
Retailers "	1.0%	3.0%	8.3%

42. Please indicate, in brief point form, your general drug purchasing procedure, in sequence, including the method by which drug prices are obtained and orders for drugs are placed?

In general, requirements are determined by pharmacist or individual responsible for drug stock and requisitions forwarded to purchasing officer. Prices obtained by tender, quotation request or from traveller or catalogue and order placed upon consideration of price, quality and source of supply.

43. How often are drug stocks checked?

Daily	3	12	9
Weekly	6	21	26
Monthly	4	13	17
Yearly	1	3	3
Other*	3	12	23
No reply		1	5

* Several times a year, continually, etc.
(Spot checks are also frequently made and, in some cases, a continuous check is maintained.)

44. With respect to drugs received from a supplier, do you maintain records indicating the name of the supplier, cost, quantity, date of delivery, and such pertinent information pertaining to the purchase?

Yes	17	58	71
No		4	9
No reply			3

45. What percentage of drugs were purchased in 1959 on the basis of tender?

None by tender	11	50	68
To some extent	4*	8†	1‡
No reply	2	4	14

* 5% to 100%.
† Varying degrees from 1% to 30%.
‡ 50%.

46. What discounts, if any, from list prices are customarily received?

Group "A" Predominantly 40%. (One lists 50% to 60%).

Group "B" 40% appears to be the customary discount, but it is quoted as low as 10% and as high as 50%.

Group "C" 40% from wholesale, 25% from retail are the customary discounts. Others vary from none, 1%, 2%, 11%, 33⅓%, to 50% and 60%.

47. What credit arrangements, if any, are in effect with suppliers in relation to the return of obsolete, deteriorated and/or expired drugs?

Full credit or replacement	17	56	61
Other		6	5
No arrangements			9
No reply			8

Full credit or replacement without question is made almost 90% of the time as far as unopened packages of expired or obsolete drugs are concerned. Arrangements are also made with some representatives to take back open packages.

In other cases, individual arrangements are made at the time of return or are according to company policy and, occasionally, a small charge, usually 10%, is made for repackaging and handling and transportation.

48. What was your total expenditure on drugs?

	Group "A"	*"B"*	*"C"*
For the year 1959	$3,364,798	$3,327,680	$1,061,811
To July 1, 1960	1,922,005	1,932,691	722,581

Group "A" All 17 hospitals reporting.

Group "B" 60 hospitals reporting

Group "C" 75 hospitals reporting for 1959.
77 hospitals reporting for the 1960 period.

49. If possible to determine with reasonable accuracy, what proportion of these expenditures in 1959 were for "generic" name drugs and "brand" name drugs?

Group "A" 9 hospitals replied of which 1 hospital reported 100% generic purchases and the others varied from 1% to 47%.

Group "B" 42 hospitals replied indicating generic purchases formed from 1% to 60% of their requirements.

Group "C" 52 hospitals replied indicating generic purchases of from 1% to 60%.

50. What was the ratio of drug costs to total hospital operating expenses for the year 1959?

	Group "A"	*"B"*	*"C"*
Average ratio	3.8%*	6.2%†	5.5%‡

* 17 hospitals reporting from .04% to 6%.

† 60 hospitals reporting from 1.29% to 26.5%. (There is some question as to the accuracy of ratios reported in some instances—26.5% would appear to be rather high and one figure of 74.3% was not included in the computation.

‡ 62 hospitals reporting from .003% to 11%. (Two figures of 17% and 31.3% were omitted as they were obviously out of line.)

51. Have hospital drug costs increased or decreased since inception of Ontario Hospital Services Commission?

	Group "A"	*"B"*	*"C"*
Increase overall	13	24	48
Decrease overall	2	5	6
Increase certain type drugs	8	11	31
Decrease certain type drugs	4	2	3
Increase per patient day	13	17	30
Decrease per patient day	1	5	6
No change		5	10

Indications are that slightly increased costs are general due, to some extent, to the increased use of drugs.

52. How are drug costs determined for inclusion in your annual returns to the Ontario Hospital Services Commission?

Drug costs are generally based on actual expenditure less inventory.

53. What is the basis of charge for prescriptions for private patients not covered by O.H.S.C.?

	Group "A"	*"B"*	*"C"*
Ward patients:			
Per diem rate	13	51	55
Cost, cost plus		4	5
Other	2		1
No reply		7	22
Indigent patients:			
Per diem rate	11	50	53
Cost, cost plus	1	2	4
Other	1		3
No reply	4	10	22

The per diem rate is the usual basis of charge for private patients regardless of category.

54. Are drugs sold to hospital employees?
If so, at what discount from retail price?

Yes	15	25	23
No	2	36	58
No reply		1	2

Charges are generally cost, cost plus 10%, with some discounts of 10%–25%.

55. Are drugs sold to in-patients (uninsured)?
If so, at what discount from retail price?

Yes		3	4
Included in per diem rate	11	54	77
No reply	6	5	2

Where drugs are sold, the charge is generally cost or cost plus 10%.

56. Are drugs sold to out-patients?
If so, at what discount from retail price?

Yes	16	10	14
No	1	52	69

Charges are generally cost and cost plus 10%, although some reported discounts of 20%–25% and, in one instance, only a token charge made or drugs were given free of charge.

57. Are deteriorated or obsolete drugs inventoried for write-off?

Yes	1	22	21
No	11	33	64
No reply	5	7	19

Obsolete drugs are generally returned for credit and write-offs are negligible.

58. What was the cost of deteriorated drugs written off or included in the cost of drugs for the year 1959?

Group "A"	"B"	"C"
$1,530*	$2,787†	$1,112‡

* This includes one hospital only; 5 reported nil, and 11 did not reply.
† This includes 14 hospitals; 21 reported nil, and 28 failed to reply.
‡ This includes 4 hospitals; 26 reported nil, and 53 failed to reply.

59. What was the cost of obsolete drugs written off or included in the cost of drugs for the year 1959?

$5,559*	$4,227†	$1,422‡

* This includes 2 hospitals; 5 reported nil, and 10 failed to reply.
† This includes 12 hospitals; 24 reported nil, and 26 failed to reply.
‡ This includes 6 hospitals; 25 reported nil, and 52 failed to reply.

60. What was the original cost of drugs returned to suppliers for credit or adjustment during the year 1959?

\$22,772* \$21,444† \$4,778‡

* This includes 9 hospitals; 8 failed to reply.
† This includes 28 hospitals; 4 reported nil, and 30 failed to reply.
‡ This includes 18 hospitals; 9 reported nil, and 46 failed to reply.

61. Please list 25 of the drugs most commonly used in your hospital and their purchase price (not necessarily in order of frequency of use):

Lists of drugs furnished were not sufficiently similar to permit price comparisons. Appended is an example of the listings reported.

62. What dollar proportion would the above group be of the total drug inventory at the present time?

	Group "A"	"B"	"C"
Average proportion	27.1%*	20.1%†	28.4%‡

* From 7.2% to 33.0% (9 hospitals reporting— 8 no reply)
† From 4.0% to 80.0% (33 hospitals reporting—29 no reply)
‡ From 4.0% to 65.0% (19 hospitals reporting—64 no reply)

63. Does the hospital test any of the drugs purchased before they are put in stock?

Yes	2	2	
No	14	60	81
No reply	1		2

64. Are hospital facilities used for clinical testing of drugs?

Yes	11	9	
No	5	53	73
Being initiated			1
No reply	1		9

65. Is clinical testing of drugs for pharmaceutical manufacturers undertaken by the hospital or is it done by hospital physicians, under an arrangement with the drug supplier?

Where clinical testing is undertaken, the majority of the arrangements are between physician and supplier.

66. What drugs were clinically tested in or at your hospital during the year 1959, and to July 1st, 1960, and for what pharmaceutical companies?

Due to the range of products tested, a complete listing is not included. However, a complete list of new drugs investigated by the hospital having the most extensive testing programme is appended. As may be noted from Question 64, most of the clinical testing is undertaken at the teaching hospitals; i.e., Group "A".

67. What remuneration does the hospital receive for use of the services supplied for such testing?

The hospitals receive no remuneration. Women's College Hospital states that "A few grants have been received which have gone into the research fellowship fund for use to help defray cost of laboratory tests, etc."

68. Is any price concession granted to the hospital on drugs clinically tested by the hospital for a manufacturer?

There is no price concession but drugs are supplied free during testing. In one or two instances, it is reported that clinical drugs are provided without charge by the manufacturers.

69. Has full information as to the results of such clinical testing been made available to the hospital?

Reports of the results are rarely supplied voluntarily, but the replies would indicate that the information is available.

70. Is this information readily available to the hospital medical staff?

On the whole, information is available on request—from drug representatives or from medical publications.

71. What proportion of the drug expenditure, as in Question 48, is applicable to out-patient clinics?

	Group "A"	*"B"*	*"C"*
1959 (average)	14.7%	2.3%	
To July 1st, 1960 (average)	17.62%	1.68%	

There are few organized out-patient clinics in Group "B", other than facilities for emergency service, and almost without exception, no organized clinics in Group "C".

72. Would the distribution in the clinics, as between generic name and brand name drugs, be approximately the same as in Question 49?

	Group "A"	*"B"*	*"C"*
Yes	12	4	

73. What is your method of charging for drugs in OP clinics?

	Group "A"	*"B"*	*"C"*
Discount from list price	20%–25%	20%–25%	20%–25%
Markup on purchase price	10%	10%	10%
Other*			

* Where a charge is made, the amount most frequently charged is cost or cost plus 10%. In some cases, drugs are supplied free or there is a token payment only (such drugs being provided without charge by drug houses).

74. What was the net difference between revenue received, as in Question 73, and expenditure, as in Question 71?

Insufficient replies received for a valid report.

75. Are drugs sold to private out-patients?
If yes, what is the method of charging?

Of 16 replies, the answer was a general "no".

76. What is the volume of such sales in relation to the drug usage in the hospital as a whole?

Number of replies insufficient for a valid report.

EXAMPLE OF LISTING OF 25 MOST COMMONLY USED DRUGS IN A GROUP "A" HOSPITAL WHERE THE MAJORITY OF PURCHASES ARE ON A "TRADE NAME BASIS

	Unit Price Paid		*Overall Quantity*
	1959	*to July 1/60*	*Involved in Unit Price*
A.P.C. & C.	$ 1.60	$ 1.60	1,000
Gantrisin	21.50	20.71	1,000
Agarol	3.50	3.50	Gallons
Amphojel	4.10	4.10	Gallons
Milk Magnesia	1.64	1.64	Gallons
Pro Banthine 15 mg.	45.60	45.60	1,000
Seconal Caps. ½ gr.	22.55	22.55	1,000
Phenobarb gr. ½	.75	.75	100,000
Sodium Amytal gr.	12.60	10.50	1,000
Dexamethasone .75 mg.	128.78	113.00	1,000
Largactil 25 mg.	37.50	37.50	1,000

	Unit Price Paid 1959	Unit Price Paid to July 1/60	Overall Quantity Involved in Unit Price
Sparine 25 mg.	19.00	17.68	500
Equanil 400 mg.	21.05	17.06	500
Meticorten 5 mg.	62.18	26.00	500
Beminal Fortis	27.44	14.02	500
Tutamates	.45	.45	50's
Hylenta "5" (oral penicillin)	65.00	27.50	500
Diuril (chlorthiazide)	60.50	22.50	1,000
Lanoxin 0.25 mg.	5.75	6.30	1.000
Ferrous Sulphate	3.75	4.25	1,000
Danitone 50 mg.	18.96	18.96	1,000
Asthma Capsules	8.00	8.00	1,000
Chloramycetin 250 mg.	30.63	15.32	100
Achromycin 250 mg.	30.63	30.63	100
Trilafon 4 mg.	24.30	22.60	500

EXAMPLE OF LISTING OF 25 MOST COMMONLY USED DRUGS IN A GROUP "A" HOSPITAL WHERE THE DISTRIBUTION BETWEEN "TRADE" AND "GENERIC" NAME PURCHASES IS MORE OR LESS EQUAL—47.6% "GENERIC", 52.4% "TRADE".

	Unit Price Paid 1959		Unit Price Paid to July 1/60		Overall Quantity Involved in Unit Price 1959	Overall Quantity Involved in Unit Price 1960
Name by Which Purchased	$	*per*	$	*per*		
Chloromycetin Capsule 250 mg.	30.62	100	15.31	100	100	1,000
Chloromycetin Succinate 1 gm.	2.92	1 gm.	2.92	1 gm.	1 gm.	1 gm.
Tolbutamide Tablets 0.5 gm.	30.00	1,000	18.00	1,000	1,000	10,000
Phenobarbital ¼ gr.	.56	1,000	.56	1,000	50,000	50,000
Phenobarbital ½ gr.	.93	1,000	.93	1,000	50,000	50,000
A.P.C. & C. ⅛ gr.	1.60	1,000	1.35	1,000	50,000	200,000
Gantrisin Tablets 0.5 gm.	20.71	1,000	20.71	1,000	1,000	1,000
Pitocin Amps 0.5 cc	19.12	100	19.12	100	100	100

Name by Which Purchased	*Unit Price Paid* 1959 $	per	to July 1/60 $	per	*Overall Quantity Involved in Unit Price* 1959	1960
(*A*) *Generic* and (*B*) *Trade Name*						
(A) Meprobamate 400 mg.	18.60	1,000	7.50	1,000	10,000	10,000
(B) Equanil 400 mg.	44.30	1,000	44.30	1,000	6,000	6,000
(B) Seconal 1½ gr.	16.67	1,000	16.67	1,000	50,000	50,000
(A) Secobarbital 1½ gr.	6.81	1,000	6.81	1,000	1,000	1,000
(B) Serpasil 0.25 mg.	7.06	1,000	7.06	1,000	5,000	5,000
(A) Reserpine 0.25 mg.	1.50	1,000	1.50	1,000	1,000	1,000
Tuinal 1½ gr.	21.52	1,000	21.52	1,000	10,000	10,000
Tuinal 3 gr.	25.94	1,000	25.94	1,000	10,000	10,000
Sodium Amytal 1 gr.	12.79	1,000	10.59	1,000	10,000	25,000
Xylocaine 1%–50 cc	1.30	50 cc	1.30	50 cc	1,000	1,000
Xylocaine 2%–50 cc	1.41	50 cc	1.41	50 cc		
Kolantyl Gel 12 oz.	.76	12 oz.	.75	12 oz.	5 gross	5 gross
Demerol 30 cc	1.46	30 cc	1.26	30 cc	1,000	1,000
A.S.A. 5 gr.	.90	1,000	.90	1,000	50,000	50,000
(B) Nembutal 1½ gr.	16.24	1,000	16.24	1,000	10,000	10,000
(A) Pentobarbital 1½ gr.			7.50	1,000		1,000
(B) Butazolidine	52.38	1,000	46.33	1,000	10,000	5,000
(A) Phenylbutazone			28.00	1,000		1,000

Drugs Clinically Tested During the Year 1959 and to July 1, 1960

Alpha-Chymotrypsin	British Drug Houses, Canada, Limited
Hydrocortisone and Atropine (1% and 2%) Ointment	British Drug Houses, Canada, Limited
Polybrene	Abbott Laboratories Limited
Oral Penicillin 152 (Syncillin)	Bristol
Oral Penicillin 152 (Brolsil)	Beecham Laboratories
Aramine	Merck, Sharpe and Dohme
Brietal Sodium	Lilly
Carbocaine	Winthrop

Cyclaine	Merck, Sharpe and Dohme
Fluothane	Ayerst, McKenna and Harrison
Hypertensin	Ciba
Nesacaine	Maltbie Laboratories
Pentathol Sodium Rectal Suspension	Abbott Laboratories Limited
Tigan	Roche
Xylocaine	Astra
5022—2A (Laboratory number)	Mead Johnston
Provera	Upjohn Company
Metopiron	Ciba
Aldactone	Searle
Prodorm	Parke, Davis
Phenoxyethyl Penicillin	Bristol and Beecham
I.V. Tetracycline (Reverin)	Hoechst
Phenoxymethyl Penicillin	Abbott
Preludin	Geigy
Phenformin	U.S. Vitamin Pharmaceutical Corp.
Glipasol	Poulenc
Diabinase (Chlorpropamide)	Pfizer
Triparanol (MER 29)	Merrill
Nitrofurantoin	Eaton
Furoxone	Eaton
Furaltadone	Eaton
Tolbutamide	Upjohn; Horner
Risdocetin	Abbott
Vancomycin	Parke Davis
Griseofulvin	McNeil
Vincoleucoblastin	Lilly
Cyclophosphadmide	Abbott
Actase (Fibrinolysin)	Armour
Anturan	Geigy
Thio TEPA	Lederle
Varidase	Lederle
Nardil	Warner Chilcott
Darenthin	Burroughs Wellcome
Smipromine Tifranil	
Marplan	Hoffman Roche
Diuretic	British Drug Houses

The above drugs are those which have been studied more or less intensively by various members of our staff. There is also a continuous review of compounds used in the treatment of hypertension, the new adrenal steroids,

new anabolic agents, new agents in the treatment of epilepsy and Parkinson's disease. It is safe to say that any new drug which shows promise in its preliminary use receives careful study at the hospital. Some of these can be evaluated quickly and are incorporated into our therapeutic armamentarium without a full-scale investigation. Others require more detailed study; such as those mentioned above.

EXAMPLE OF LISTING OF 25 MOST COMMONLY USED DRUGS IN A GROUP "A" CANCER HOSPITAL WHERE PURCHASING IS ON A 100% "GENERIC" BASIS.

Explanatory Note—

"It has been established in this hospital that,

(a) when prescribing, doctors are to use generic rather than trade names whenever practical.

(b) if a trade name is used by the prescribing doctor, the pharmacist may supply the patient with medication of the same generic name even though made by a different manufacturer.

(c) that the pharmacist has been authorized to purchase drugs by generic name so that a tendered and lowest price may be obtained.

There have been no complaints from any source as to the above policies. Patients are sometimes confused by the fact that on renewal of prescription the same coloured medicine is not always supplied."

	Unit Price Paid		*Overall Quantity Involved in Unit Price*
	1959	*to July 1/60*	
Name by which purchased	$	$	
Amobarbital (Amytal Sodium 200 mg. caps)	15.54	15.54	500
Amobarbital (Amytal Sodium 100 mg. caps)	6.70	6.70	500
6-Mercaptopurine (Purinethol 50 mg. tablets)	3.55	3.55	25
Erythromycin (Ilosone 250 mg. capsules)	30.00	25.50	100
Lidocaine (Xylocaine Viscous)	8.42	8.42	450 cc.
Aluminum Hydroxide Gel (Amphojel Liquid)	.15	.15	6 oz.
Chloramphenicol (Chloromycetin 250 mg.)	28.49		100
Chloramphenicol (Enicol)		15.30	100

Name by which purchased	*Unit Price Paid 1959* $	*to July 1/60* $	*Overall Quantity Involved in Unit Price*
Chlorambucil (Leukeran 2 mg. tablets)	43.68	43.68	1,000
Prednisone (Meticorten)	7.00	4.50	100
Fluoxymesterone (Ultandren)	375.00		5,000
Fluoxymesterone (Ultandren)		720.00	10,000
N.N'N" Triethylenethio-phosphoramide (Thio Tepa)	1.31	1.31	1
Methallenestril (Vallestril)	271.25	271.25	10,000
Thyroid	3.54	3.54	1,000
Triiodothyronine (Cytomel)	2.35	2.35	100
A.P.C. & C. ¼ gr.	4.70	4.70	1,000
A.P.C. & C. ½ gr.	7.92	7.92	1,000
Multiple Vitamins (Multivites)	8.50	8.50	1,000
Nitrogen Mustard (Mustine Hydrochlorine Inj.)	1.20	1.20	1
Sulfisoxazole (Gantrisin 0.5 gm. tablets)	25.96	25.96	1,000
Pyridoxine (Hexavivex)	3.15		1
Pyridoxine (Hexabetalin)		2.20	1
Anileridine (Leritine 25 mg.)	12.55	12.55	500
Perchlorperazine (Stemetil—10 mg. tablets)	22.50		500
Perchlorperazine (Stemetil—10 mg. tablets)		37.50	1,000
Stilboestrol—5 mg.	6.90		500
Stilboestrol—5 mg.		12.20	1,000
Stilboestrol—1 mg.	5.50	4.95	1,000
Busulphan (Myleran)	1.50	1.50	25

OCTOBER 24, 1961 SCHEDULE 1

CANADIAN PHARMACEUTICAL MANUFACTURERS ASSOCIATION

COMPILATION OF RESULTS OF SPECIAL QUESTIONNAIRE (dated May 3, 1961) COVERING 1960 FIGURES

Total Operating Results—as reported by 40 companies

	1960 Total dollar value	*1960 results expressed as percentages*
1. NET SALES (that is, gross sales including sales tax where sales are made tax included, less returns and allowances) FOR:		
a. HUMAN PHARMACEUTICALS (include all vitamins and O-T-C pharmaceuticals here)	$107,994,000	84.3%
b. VETERINARY PHARMACEUTICALS	2,029,000	1.6%
c. PROPRIETARY MEDICINES (patent medicines but not O-T-C pharmaceuticals)	761,000	.6%
d. CHEMICALS	7,346,000	5.7%
e. OTHER PRODUCTS (not listed above)	8,237,000	6.4%
TOTAL NET SALES	$126,367,000	98.6%
f. Note participants reported that they manufactured $3,021,000 worth of merchandise for other C.P.M.A. members, including $2,791,000 of human pharmaceuticals.		
g. OTHER INCOME	1,836,000	1.4%
TOTAL INCOME (comprising a, b, c, d, e, and g, and including sales tax)	$128,203,000	100.0%
2. WAGES AND SALARIES (all wages and salaries including management salaries, directors' fees, payments to employees for holidays and in connection with profit sharing or production incentive plans, unless such payments are distributed only upon retirement of employee or some similar basis, in which case they are to be included in 3.)	$ 31,183,000	24.3%
3. EMPLOYEE BENEFITS (payments to pension plans, group life, sickness or hospitalization insurance, workmen's compensation, unemployment insurance, medical services, cafeterias, welfare funds, 25-year clubs, etc.)	2,396,000	1.9%

Total Operating Results—as reported by 40 companies

	1960 Total dollar value	*1960 results expressed as percentages*
4. MATERIALS (including raw materials, finished and semi-finished materials purchased for resale, materials consumed in processing operations, and packaging and shipping materials; but not including plant supplies to be included in (6.)	36,765,000	28.7%
5. EXCISE AND SALES TAXES (included in 1. above, remitted or to be remitted to Dominion and other Governments)	8,021,000	6.2%
6. OTHER EXPENSES (including plant supplies, power, water, municipal taxes, maintenance, repairs to buildings, machinery and equipment (not including salaries and wages or employee benefits included in 3. above), office, administrative and selling expenses not included above, including charitable donations and interest expense)	33,613,000	26.2%
7. DEPRECIATION	2,157,000	1.7%
8. TAXES ON INCOME (Dominion and Provincial taxes on income)	7,063,000	5.5%
9. DIVIDENDS (or equivalent—distribution of profits only)	6,404,000	5.0%
10. RETAINED IN THE BUSINESS (that amount of the year's income not paid out in dividends or equivalent)	601,000	.5%
TOTAL (comprising 2 to 10 inclusive)	$128,203,000	100.0%
11. NUMBER OF EMPLOYEES (average over 12 month period of fiscal year)	5,950	
12. NUMBER OF SHAREHOLDERS (average over 12 month period of fiscal year)	1,769	
13. TOTAL NET WORTH (capital stock—preferred common, etc.—and total retained earnings—surplus and reserves)	$ 57,800,000	

Canadian Pharmaceutical Manufacturers Association

COMPILATION OF RESULTS OF SPECIAL QUESTIONNAIRE (dated May 3, 1961) COVERING 1960 FIGURES

Supplementary Analysis of Sales Volume Submitted by 35 Companies for 1960

	Total Sales	*1960 Dollar Value*	*Percentages*
I. (a)	Sales of human pharmaceuticals		
	(i) to General Hospitals and Institutions	$ 19,789,000	16.6%
	(ii) to the Ontario Government	804,000	.7%
	(iii) to other Governments	3,154,000	2.6%
	(iv) to Wholesalers	38,655,000	32.3%
	(v) to Druggists (including drug chains) and dispensing physicians	37,145,000	31.1%
	(vi) export and other sales	3,086,000	2.6%
	Total sales of human pharmaceuticals	$102,633,000	85.9%
(b)	All other sales (items (b) to (e) of Schedule 1, question 1)	16,881,000	14.1%
	Total Net Sales	$119,514,000	100.0%

Sales included above made within the Province of Ontario

		1960 Sales in Ontario	*Percentages*
II. (a)	Sales of human pharmaceuticals		
	(i) to General Hospitals and Institutions	$ 6,280,000	14.9%
	(ii) to the Ontario Government	743,000	1.8%
	(iii) to other Governments	761,000	1.8%
	(iv) to Wholesalers	13,900,000	33.0%
	(v) to Druggists (including drug chains) and dispensing physicians	13,718,000	32.6%
	(vi) export and other sales	490,000	1.2%
	Total sales of human pharmaceuticals	$ 35,892,000	85.3%
(b)	All other sales (items (b) to (e) of Schedule 1, question 1)	6,172,000	14.7%
	Total Net Sales	$ 42,064,000	100.0%
III.	Percentage of sales in Ontario to total net sales..		35.2%

CANADIAN PHARMACEUTICAL MANUFACTURERS ASSOCIATION

COMPILATION OF RESULTS OF SPECIAL QUESTIONNAIRE (dated May 3, 1961) COVERING 1960 FIGURES

Analysis of profit and loss items between Human Pharmaceuticals and other items, prepared by 40 companies for 1960

	Human Pharmaceuticals		*All Other Sales*		*Total*	
	Dollars	*Per-centages*	*Dollars*	*Per-centages*	*Dollars*	*Per-centages*
1. Net Sales	$107,994,000	100.0%	$ 18,373,000	100.0%	$126,367,000	100.0%
Deduct:						
2. Cost of goods manufactured or purchased for resale (including material, labour, overhead, depreciation, packaging, and both in-process and analytical quality control, but excluding items below)	$ 40,997,000	37.9%	$ 12,443,000	67.8%	$ 53,440,000	42.3%
3. Excise and sales taxes	7,522,000	7.0%	499,000	2.7%	8,021,000	6.3%
4. Research expenditure	4,130,000	3.8%	115,000	.6%	4,245,000	3.4%
5. Selling and advertising	31,528,000	29.2%	2,241,000	12.1%	33,769,000	26.7%
6. Administration expenses (including executive and head office expense of all kinds, donations, interest on borrowed money, etc.)	12,834,000	11.9%	1,318,000	7.2%	14,152,000	11.2%
7. Total items 2 to 6	$ 97,011,000	89.8%	$ 16,616,000	90.4%	$113,627,000	89.9%
8. Item 1, less item 7	$ 10,983,000	10.2%	$ 1,757,000	9.6%	$ 12,740,000	10.1%
9. Add other income, less other miscellaneous expenses	1,353,000		(32,000)		1,321,000	1.0%
10. Income taxes	6,335,000		728,000		7,063,000	5.6%
11. Net profit after tax (to agree with total of items 9 and 10 Schedule 1)	$ 6,001,000	5.5%	$ 997,000	5.4%	$ 6,998,000	5.5%

Canadian Pharmaceutical Manufacturers Association

COMPILATION OF RESULTS OF SPECIAL QUESTIONNAIRE (dated May 3, 1961) COVERING 1960 FIGURES

Research and Development Expenditures—1960

	Number of Companies Reporting	*1960 Amount*
1. Total cost incurred for all drug or medical research and development (This includes cost of salaries, other direct costs, service, routine supplies, and supporting costs, plus a fair share of overhead such as administration, depreciation, space charges, rent, etc., but does not include patent expenses. Where a company's research is handled in whole or in part by a parent company located outside of Canada, the amount charged to the Canadian company is included). Of this total, the total amount actually spent	35	$4,163,000
(a) in Canada		$3,349,000
(b) in Ontario		$ 422,000
(c) Total amount charged to the Canadian companies by parent companies located outside of Canada		$ 801,000
2. (a) 30 out of 37 companies reported that foreign parent or affiliated companies make available to the Canadian companies research and development work which is not charged to them.		
(b) The 30 companies estimate that the cost of such research and development work reasonably applicable to the Canadian operation would be	30	$5,388,000
3. The percentage of total cost of all research and development (including that portion not charged to Canada 2(b)) in relation to Canadian net sales	37	8.3%
4. Of the total reported in 1. above, the total amount spent on clinical investigation work in Canada (including medical department)	33	$1,022,000
5. The total amount spent in the form of research or development gifts or grants to	35	
(a) Universities		$ 138,000
(b) Hospitals		$ 65,000
(c) Individual researchers		$ 117,000
(d) Health research foundations		$ 32,000
(e) Graduate or post-graduate scholarships and awards		$ 62,000

		Number of Companies Reporting	1960 Amount
6.	Number employed in Canada, who spent either all or part of their time on research and development work	34	
	(a) Ph.D. or D.Sc.	61	
	(b) M.D.	41	
	(c) M.Sc., or equivalent	28	
	(d) B.Sc., B.Phm. or equivalent	90	
	(e) Less than college degree	142	
	Total number of employees	362	
7.	Estimated total cost of research and development laboratory and equipment located in Canada	35	$5,180,000

October 24, 1961 — Schedule 5

Canadian Pharmaceutical Manufacturers Association

COMPILATION OF RESULTS OF SPECIAL QUESTIONNAIRE (dated May 3, 1961) COVERING 1960 FIGURES

Quality Control Expense—1960

		Number of Companies Reporting	1960 Amount
(Note: These figures include the costs of operating quality control laboratories and the cost of testing in outside laboratories and do not include the cost of inspection staff and other techniques designed to control the manufacturing process required to produce a quality product.)			
1.	Total cost incurred for all quality control operations	35	$1,555,000
	Of this total, the amount actually spent		
	(a) in Canada		$1,340,000
	(b) in Ontario		$ 481,000
	(c) Total amount spent on behalf of the Canadian companies by parent or affiliated companies located outside of Canada and charged to the Canadian companies		$ 230,000
2.	Percentage of total cost of all quality control in relation to total production cost	35	4.2%

		Number of Companies Reporting	1960 Amount
3.	Number employed in Canada, who spent all or part of their time on quality control:	34	
	(a) Ph.D. or D.Sc.	7	
	(b) M.Sc. or equivalent	11	
	(c) B.Sc., B.Phm. or equivalent	98	
	(d) Less than college degree	121	
	Total number of employees	237	
4.	(a) Estimated total cost of control laboratory and equipment—in Canada	33	$1,544,000
	in Ontario		$ 462,000

October 24, 1961 Schedule 6

Canadian Pharmaceutical Manufacturers Association

COMPILATION OF RESULTS OF SPECIAL QUESTIONNAIRE (dated May 3, 1961) COVERING 1960 FIGURES

Miscellaneous Information—1960

1. *Financial Control:*

40 companies replied to the question and of these 32 are controlled by companies located outside of Canada. The replies indicated control located in the following countries:

United States	23
Canada	8
United Kingdom	4
Switzerland	4
Sweden	1
	40

2. *Manufacturing in Canada:*

38 of 40 companies reported that they manufacture goods in Canada under their own names—2 companies do not manufacture in Canada. Sales volume, expressed as percentages, was analyzed as follows:

(i) Goods manufactured and packaged on the premises in Canada	75.7%
(ii) Goods manufactured or packaged by other Canadian companies	5.8%
(iii) Goods manufactured outside Canada but packaged by the company in Canada	11.8%
(iv) Goods manufactured and packaged outside Canada	6.7%
	100.0%

3. *Returned merchandise:*

Sales value of returned merchandise reported by 38 companies:

(i) Human pharmaceuticals (or 3.2% of sales of human pharmaceuticals by the companies)	$ 3,377,000
(ii) All other sales (or 1.6% of all other sales by those companies)	$ 225,000
Sales value of merchandise returned which is not re-usable (or 40% of returned merchandise and 1.2% of total sales.)	$ 1,465,000

4. *Retail outlets:*

Of 40 companies replying for 1960, 39 did not maintain any direct retail sales outlets, and one company did operate 3 separate outlets.

5. *Packaging:*

For 1960, 37 companies reported the total cost of packaging their human pharmaceuticals (including labour, packaging materials, etc.) to be	$ 11,420,000
Total sales of human pharmaceuticals by those 37 companies for 1960 were	$101,983,000

6. *Selling and advertising expense:*

For 1960, 40 companies reported:

(i) Total selling and advertising expense (including promotion, salesmen's compensation, detail men, etc.) in respect of human pharmaceuticals	$ 31,528,000
(ii) Amount spent on medical exhibits and space	$ 206,000
(iii) Amount spent on medical and pharmaceutical journal advertising	$ 2,030,000
(iv) Amount spent on direct mail advertising	$ 3,048,000
(v) Amount spent on samples	$ 3,953,000
(vi) Donations and contributions to medical and pharmaceutical groups, hospitals, etc. (excluding research and development grants	$ 192,000

7. *Detail men:*

(i) Number of "detail men", including field supervisors, employed by 40 companies in 1960	1,576
(ii) Number of "detail men" located in Ontario	560
(iii) Total remuneration of "detail men" (including salary, bonus, commission and fringe benefits)	$ 10,375,000
(iv) Total expense of travel, etc.	$ 4,842,000

(v) 39 of 40 companies replied to a question regarding direct selling—and of these 31 companies reported that their detail men were engaged in direct selling activity as well as in promotional work. Time spent on direct selling varied considerably from company to company, but appeared to average between 40% and 50% of the total time of the detail men

for those 31 companies. However, the weighted average for all 39 companies represented 36% of the time of detail men spent in direct selling.

8. *Investment in plant:*

39 companies reported the following figures:

(i) Original cost of all land, buildings and equipment at end of 1960 fiscal period	$ 49,762,000
Depreciation accumulated thereon	$ 19,659,000
(ii) Original cost of land, buildings and equipment located in Province of Ontario	$ 17,388,000
Depreciation accumulated thereon	$ 5,369,000
(iii) Cost of additions to plant and equipment in 1960	$ 2,987,000
(iv) Of the total reported in (i) above the amount invested in laboratories and research facilities	$ 6,621,000
Depreciation accumulated thereon	$ 2,138,000

9. *Normal trade discounts allowed on sales of human pharmaceuticals:*

37 companies answered the question regarding normal trade discounts and the following is a brief analysis of the replies:

(i) On sales to hospitals (35 companies of the 37 sell to hospitals)—
4 quoted "net" prices
1 allows trade discount of less than 40%
18 allow trade discount of exactly 40%
12 allow trade discount of over 40%, mostly in range of 40% to 50%

(ii) On sales to Governments (36 companies)—
15 special prices by quote or tender
2 allow discount of less than 40%
8 allow discount of exactly 40%
11 allow discount of over 40% up to 50%

(iii) On sales to wholesalers (37 companies)—
3 allow discount of less than 40%
8 allow discount of exactly 40%
25 allow discount of over 40% up to 50%
1 allows discount of over 50%

(iv) On sales to druggists (31 companies)—
24 allow discount of exactly 40%
7 allow discount of over 40% up to 50%

In addition, certain companies indicated that they allowed volume discounts, and special discounts on certain products from time to time.